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TOWARDS A MORE GRAPHIC REPRESENTATION OF RUSSIAN SIMPLE VERBS OF MOTION

by

Sharon Elizabeth Bahry ©

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October 6, 1997

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled *Towards a More Graphic Representation of Russian Simple Verbs of Motion* submitted by *Sharon Elizabeth Bahry* in partial fulfillment of the requirements for the degree of *Master of Arts* in *Russian Linguistics*.

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DEDICATION

To my beloved parents,
Mildred and Stanley Bahry:
Thank you for your constant love
and encouragement.

ABSTRACT

This thesis is concerned with graphically and non-graphically presenting the similarities and the differences between the simple determinate and indeterminate Russian verbs of motion. The ideas of time and direction and their role in characterizing the sub-aspects are discussed. Fundamental notions of kinetics--displacement and velocity--are used to differentiate between the two categories. The physics concepts of orbit and trajectory, and their mathematical correlates, circle and tangent, are introduced as an analogy to describe the type of motion each represents. A discussion on the relationship of the "going" verbs in terms of "context" and "complexity" to "motion along a line" is visually presented. The ideas and diagrams developed in this thesis have been inspired, among others, by the writings of Forsyth, Ward, Foote, and Pahomov.

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INTRODUCTION

This thesis is concerned with visually and non-visually presenting some of the elements of meaning in the Russian "going verbs," commonly classified as "verbs of motion," (henceforth, VOM). The Russian VOM will be identified. Attention will be directed toward their definitions and functions. Concentration will be on the similarities and the differences between the two categories of VOM. Of particular interest will be the type of motion each represents. To develop an understanding of the meaning of VOM and then apply them in sentences we need to (a) point out what features generally identify the two types of VOM when they are used; and then (b) determine the unique nature that distinguishes one type from the other.

It is easy to show the uses of each category of VOM. It is harder to show the inherent meaning of the categories--meaning that is derived from the characteristics of the motion represented. Function, meaning, and form in the description of the VOM depend on each other. Because of the non-linear nature of the material concerning VOM, the choice of a starting point for its presentation is arbitrary. However, because the comparison of the two types of VOM may be effectively based on the description of one of the two, discussion will usually begin with the идти-type VOM, which is considered the "marked" member.

The theoretical basis for the development of this thesis stems from several primary sources. Most of the books and articles are in English and meant for the English-speaking student of Russian. As guides for their definitions and for example sentences, many textbooks themselves refer to the scholarly works of grammarians such as Ward (1965), Foote (1967), Forsyth (1970), or Isačenko (1961). Rather than presenting a synopsis of their contents separately, I will be referring to these major reference sources as I develop my thesis. Most of the ideas in this thesis have been discussed, among others, by Forsyth, Ward, and Foote. Wherever I disagree or present my own ideas, it will be pointed out.

A focus of this thesis is on graphic representations of some of the features of determinate and indeterminate motion. Sometimes purely verbal descriptions in English or attempts at an explanation by parallel English constructions do not adequately clarify the meaning of movement indicated by Russian VOM. Pahomov in his article, "Bull, Boar, and Orbit/ Trajectory: on Presenting the Verbs of Motion" suggests that "it is best to present ходить/идти as graphic concepts through the application of numerous illustrations" (1977:4) rather than using English verbs of motion to render the Russian, which "only clouds the simplicity" (1977:4). Explanations fall apart, as exemplified by the problem mentioned by Forsyth in the relating of English simple and compound continuous tense with Russian идти/ ходить-type VOM (1963:147). This is especially important because, as most foreign students of Russian can attest, there generally appears to be an apparent uncertainty as to the appropriate type of verb of motion to apply in a sentence.

Many Russian grammar books, general textbooks and specialized texts on the grammatical category include pictures and drawings to visually describe VOM. Verbs of Motion in Russian by Muravyova has a significant number of illustrations to accompany its verbal explanations. In some texts such as Грамматика русского языка в иллюстрациях the main thrust is visual representation.

Usually visuals (in the form of drawings or pictures) are used to present the distinct **literal-lexical**[1] meanings of the different pairs in a set, e.g., how the "type of action"[2] involved in катить, "*to roll*," differs from that in тащить, "*to drag*." Other pictures or drawings are used to show the distinction between the determinate and indeterminate members of a pair such as плыть/ плавать, "to swim," e.g., the motion of a swimmer in a race *vs* the motion of swans swimming about on a lake. Graphic symbols like arrows and lines are often used in the attempt to clarify the distinctiveness of the motion. A major thrust of this thesis comprises the various illustrations that I myself have created to diagrammatically exemplify characteristics of the VOM.

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[1] See item (b) in Segment *1.2.2*.

[2] ibid.

CHAPTER I: ADDRESSING THE SIMPLE VERBS OF MOTION

Identification of the VOM and clarification of terms and concepts related to their understanding are the topics of this chapter.

1.1.0 Identification and categorization of the simple VOM

1.1.1 Setting the VOM apart

Of the many verbs in Russian that denote motion, there exists a unique set that is labeled "verbs of motion." Unlike those other verbs denoting motion, these VOM consist of pairs of verbs whose *grammatical* meaning is different from its partner's but whose *lexical* meaning is the same.[1] The VOM are also known as "*going*" verbs, because the *underlying lexical* meaning of each verb in each couple is the same: "*to go,*" "*to cause to move,*" or simply "*motion.*" Furthermore, both members of the set belong to the imperfective aspect.

The VOM are part of two binary aspect systems. Like most verbs, the VOM participate in the perfective/ imperfective aspect system. They also participate in a sub-group exclusive to them in the aspect system. Two common ways of referring to this sub-group in the literature on the Russian aspect system are with the terms "determinate/ indeterminate" or "идти-type/ ходить-type."

1.1.2 Simple vs complex VOM

Simple VOM are not prefixed while complex VOM are. Ward (1965:250) mentions that although "individual prefixed verbs" are counted as VOM, "the restricted sense in which the term is applied," i.e., with both verbs imperfective, excludes imperfective/perfective couples such as уходить/ уйти or прилетать/ прилететь. This thesis essentially limits its enquiry to the simple VOM. Furthermore, only the indicative form of these verbs is considered.

1.1.3 List of simple VOM

Most grammarians agree on thirteen pairs of verbs that can be classified as simple

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[1] See Segment *1.2.2* on the tiers of "lexical/ grammatical" meaning.

VOM, although grammar books often list fourteen pairs.[2] Eight are intransitive: идти/ходить *'to go on foot, to go'*; ехать/ездить *'to ride'*; бежать/бегать *'to run'*; плыть/плавать *'to swim, to sail'*; лететь/летать *'to fly'*; брести/бродить *'to wander'*; ползти/ползать *'to crawl'*; лезть/лазить *'to climb.'* Six are transitive: нести/носить *'to carry'*; везти/возить *'to convey'*; вести/водить *'to lead'*; катить/катать *'to roll'*; тащить/таскать *'to drag'*; гнать/гонять *'to drive.'* The reflexive forms of transitive VOM in the above list also observe the same pattern.

1.1.4 Идти/ ходить as the archetypical pair

We are concerned primarily with what is here termed the **grammatical-lexical**[3] meaning of the motion, i.e., what distinguishes the members of the pairs within the set from each other, such as their distinctive motion, rather than what is here termed the **literal-lexical** distinction among the couples, i.e., among *'to walk, to go'* (идти/ ходить), or *'to ride'* (ехать/ ездить), or *'to fly'* (лететь/ летать)," or *'to carry'* (нести/ носить), etc. The contrast in motion features exhibited within the pair идти/ ходить is identical to that which is found in the other VOM couples. Thus, идти/ходить may be considered the archetypical pair.

1.1.5 Categorization of VOM

In Russian grammar books, there are many other terms used to categorize идти- and ходить-type VOM in the attempt to define each sub-aspect and, in the process, to distinguish between them. A survey of various grammar books and articles on the subject reveals that the number of terms virtually reflects the number of categories employed to identify идти- and ходить-type VOM. Each type is shown to exhibit various features and each term usually highlights only one of its features. The differences between the two types of verbs are usually presented as opposing pairs: determinate/ indeterminate, non-frequentative (некратный)/ frequentative (много кратный), unidirectional/ non-unidirectional, unidirectional

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[2] The disagreement is mainly over including брести and бродить as a verb of motion pair (See Segment *1.2.4*).

[3] See Segment *1.2.2*.

(однонаправленный)/ multidirectional (разнонаправленный), definite/ indefinite, concrete/ abstract, durative/ iterative, actual/ potential, specific/ general[ized], идти-type/ ходить-type, and so on. Most of the above are compiled from Foote (1967:6).

1.1.6 Muravyova's description of the simple VOM

The definition of each category is further enhanced by examples of the verbs applied in sentences. Muravyova's text, Verbs of Motion in Russian (1978), is often cited as a reference for the differentiation between the functions of идти-type verbs and ходить-type verbs. See Table 1.1 at the end of this chapter for Muravyova's table listing the uses of simple VOM. She uses the term "unidirectional" to categorize the идти-type verbs and the term "multidirectional" to categorize the ходить-type. Each verb of motion in the five examples showing uses of идти-type verbs maintains motion that is in one direction, but the motion can be (a) toward a specific (2, 3, 5) or non-specific goal (1); (b) repeated (4).

Muravyova's examples exhibiting application of ходить-type verbs can be classified into three general indicators of use in expressing "multidirectional" motion: (a) capacity for the motion (5); (b) random motion (1); and (c) 'there and back' motion (2, 3, 4). The term "non-unidirectional" is a more appropriate term because "capacity for the motion" is not necessarily "multidirectional."

Functions vary with tense in the verb categories--in the идти-type, the present form can have a future meaning; and in the ходить-type, the past tense has the specific meaning of "two-way action."

1.2.0 Levels of meaning in VOM

In examining the meaning of verbal aspect in his book, A Grammar of Aspect (1970), Forsyth points out that it is imperative to be aware of

> the distinction between the objective reality of the events in question and their linguistic expression by means of verb forms. . . . Failure to keep these distinctions in mind can result in faulty reasoning. (Forsyth 1970:16)

Variations in the meaning of words such as "action," "lexical," and "grammatical" play a role in these distinctions.

1.2.1 Forsyth: clarification of the word "action" in the discussion of Russian verbs

Forsyth (1970:16) distinguishes among the senses of meaning to which the word "action" may apply when referring to verbs:

(a) *action* is used to describe "objective reality," "the actual performance of the given type of action on a specific occasion or occasions . . . better referred to as 'factors' or 'events.'"

(b) *action* is used to describe the "general lexical meaning," to be referred to as "type of action."

(c) *action* is used to describe "the view or presentation of the type of action, which is inherent in the lexical meaning of a given verb," e.g., the 'type of action' in кричать '*to cry*' and стучать '*to knock*,' "which inherently consist of a succession of repeated identical acts."

(d) *action* is used to describe "the subjective view of a specific objective fact: the speaker may choose to present an event as a single indivisible whole, or not." This could have to do with the use of, e.g., идти *vs* пойти, i.e., perfective *vs* imperfective. It is suggested that the subjective view, item (d), may not be directly relevant to the discussion on simple VOM.

Thus, in terms of point of view, (henceforth "POV"), the word "action" as presented above can indicate four positions of observation of the activity that is described by verbs (Forsyth 1970:16):

(a) the *objective view*
(b) the *type of action*
(c) the *view or presentation of the "type of action"*
(d) the *subjective view.*

This clarification of the use of the word "action" can be carried over to the discussion of the simple VOM, as does Forsyth in Chapter 10 of A Grammar of Aspect (1970). It is obvious that the "events in question" being studied in this thesis have to do with "motion." "Action" applied in this limited area of study can be considered a synonym for "motion." Because this thesis discusses the meaning of VOM, there is also an obligation to heed this advice in acknowledging the various senses that the word "action" implies. In the manner of

Forsyth, this thesis applies these terms to differentiate the perfective from the imperfective aspect, but primarily to distinguish between идти-type and ходить-type VOM.

1.2.2 Clarification of the meaning of "lexical" and "grammatical" as applied to VOM

The various senses of the notion of "action" by Forsyth, listed as items (a), (b), and (c) in Segment *1.2.1* above, can be expressed in linguistic terms involving the words "lexical" or "grammatical," and applied when referring to VOM:

(a) What this thesis calls the **underlying-lexical meaning** of the action, common to all the VOM, i.e., the meaning of "*to go,*" "*to move,*" "*to cause to move,*" or just "*motion.*" This term, the linguistic expression of the event taking place in reality, is connected to Forsyth's *objective* view, item (a) in Segment *1.2.1*.

(b) What this thesis calls the **literal-lexical** meaning of an action, i.e., the name of the verb. The **literal-lexical** meaning shows a *distinctiveness of meaning* between two VOM pairs, e.g., the difference between the couple плыть/плавать '*to swim*' and the duo лететь/летать '*to fly.*' It is also often referred to as the "general lexical," the "basic lexical" (Forsyth 1970:325), the "minimal lexical" (Forsyth 1970:326), or simply "lexical" meaning, all of which describe what Forsyth calls the "type of action," item (b) in Segment *1.2.1*.

(c.i) What this thesis calls the **grammatical-lexical** meaning, which distinguishes the members within each pair. Forsyth refers to this difference as "grammatical meaning," which corresponds to the phrase "view of the type of action,"(c) in Segment *1.2.1*. The **grammatical-lexical** meaning highlights the difference between determinate and indeterminate motion. See Segment *1.2.4* below.

(c.ii) What this thesis calls the **metaphorical-grammatical-lexical** meaning. The term is related to Forsyth's "*grammatical*" meaning of the particular verb, showing its distinctive motion. However, in this thesis, the term refers to the use of a verb of motion in an "idiomatic" context: {Дождь идёт--'*It is raining*'}[4] or {Часы летят--'*Time flies*'}. This is an example where only one or the other of the VOM couple can be used in a specific context. According to Foote (1967:33), not many of the VOM other than идти/ходить, вести/водить, and нести/носить are employed beyond their "basic" meaning. What he means by "basic" meaning is what this thesis calls "**grammatical-lexical** meaning" from item (c.i) above. Using VOM "beyond their basic meaning" refers to their use idiomatically or as **metaphorical-grammatical-lexical** in meaning, (c.ii) above. Segment *1.2.4* further discusses idioms based on VOM.

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[4] Examples of Russian usage with English translations introduced in this thesis will follow a stylistic pattern not necessarily matching the quoted source but in the style presented here.

In a discussion that attempts to distinguish between the motion of идти-type verbs and ходить-type verbs it should be noted that in most cases the specific use of one or the other depends on the context of the action being described, i.e., the POV that the speaker takes of the action.

1.2.3 Perfective vs imperfective aspect: "identical lexical meaning"

Forsyth states that the perfective and imperfective are "two parallel sets of verb forms carrying identical lexical meaning, i.e., denoting one and the same type of action" (1970:1). Russian has two sets of forms, perfective and imperfective, each of which can be addressed together as "the verb '*to write*.'" The forms "писать, пишу, писал" are part of the first set of the "type of action," '*to write*'; and the forms, "написать, напишу, написал," are part of the second set of the "type of action," '*to write*' (Forsyth 1970:1). In contrast, English has one set of forms that can jointly be called "the verb '*to write*.'" The forms, "*wrote, did write, have written*" are part of the set of the "type of action," '*to write*.'" The term, "type of action" identifies the "lexical" meaning of '*to write*' as distinct from '*to think*.' The perfective and the imperfective are the same, with respect to "type of action," but they differ as to "the view or presentation of the type of action." Forsyth states that "the relationship between the two aspects depends upon an opposition of meanings and grammatical functions which constitute part of the *system* of the Russian verb" (1970:2).

1.2.4 Determinate and indeterminate pairs: "identical lexical meaning"

A relationship, similar to that described above between perfective/ imperfective, exists between determinate/ indeterminate. The distinction of the VOM, from other verbs denoting motion or from any other verbs at all, as consisting of pairs of two different verbs, each having the same "*lexical*" meaning but a different "*grammatical*" meaning, is stated in many textbooks. When two members are classed together as a pair of VOM they have the identical "lexical" meaning, i.e., they describe "the same type of action" (Forsyth 1970:319). Forsyth clarifies the statement for VOM by pointing out that both verbs in each couple, e.g., идти/ходить, бежать/бегать, ехать/ездить, лететь/летать, нести/носить, denote the same mode of locomotion--each verb in a pair means *'to walk,' 'to run,' 'to drive,' 'to fly,' 'to carry,'* etc., respectively (Forsyth 1970:319). These are the "**literal-lexical**" meanings that minimally distinguish a VOM pair from another. The verbs differ wherein they "present two alternative views of this activity" (Forsyth 1970:319). In this thesis that distinction is referred to as the **grammatical-lexical** meaning. All the VOM have the **underlying-lexical** meaning of *'to go.'*

Because the two verbs classed together as a pair of VOM must have identical meaning, Isačenko (1961:4) believes that certain couples normally classed as VOM, e.g., брести/бродить *'to wander,'* should not be included because they have not remained wholly "identical in *lexical* meaning" (Ward 1965:251 paraphrasing Isačenko 1961:4). The pair, брести and бродить, both can mean *'to wander,' 'to amble,'* but only брести connotes *'going along with difficulty.'* Thus, they are not coupled like *'to drive,' 'to ride,' 'to move along swiftly'* (Ward 1965:251 paraphrasing Isačenko 1961:4). In spite of the extra connotation possessed by брести, Muravyova (1978:13-15) lists many samples of the use of the duo брести/бродить, which appears as an excellent example typifying the distinction between the motion as expressed in the **grammatical-lexical** meaning of the sub-aspects. Also see the Academy Grammar (1960:I, 458), Forsyth (1970:319), and Vilgelminina (1963:61).

Ward (1965:251) argues that, although these original VOM pairs are "no longer completely identical in *lexical* meaning . . . they retain the grammatical distinction which [all] other coupled members [e.g., идти/ходить, ехать/ездить, бежать/бегать] have." He points out that "indeed their different lexical meanings have become possible precisely because of their different grammatical meanings" (Ward 1965:251).

Thus, Ward expands the membership criteria beyond that of a verb of motion pair having the same *lexical* meaning, when he pleads the case for including them in the list of VOM, "if only as non-paired, individual verbs" (1965:251). He gives "очутиться" and "очнуться" as examples of the use of other verbs that are not excluded from "the category of aspect simply because they have no paired imperfectives" (1965:251). Ward makes a strong argument when he points out that particular VOM are used in "certain 'idiomatic' ways . . . where their counterparts are not used" (Ward 1965:251), but are still considered VOM by grammarians. Evidence is that the idiomatic uses of идти or носить, which are characteristic of only that member of a pair, have not removed them from the rolls of VOM.

1.3.0 Juxtaposition of characteristics of VOM

1.3.1 Equipollent vs privative opposition

In general there are two standard models, based on opposition, for defining grammatical categories such as perfective/ imperfective or determinate/ indeterminate aspects: one is "equipollent," the other "privative." Lozinska (1992:19) identifies Avilova (1976:28), Bondarko (1971), Rassudova (1984:14-15, 23), and Townsend (1985:288) as having adopted the equipollent model, where *"both terms in the opposition have positive characteristics"*[5] (Forsyth 1970:348). Lozinska (1992:15) points to Jakobson (1984:3), Isačenko (discussed in Thelin (1978:110)), and Forsyth (1970:347-50) as having adopted the traditional model, "privative opposition."

It was Roman Jakobson who first applied the idea of "privative opposition" to the study of the Russian verb (Forsyth 1970:7). Forsyth elucidates the idea of privative opposition:

> one term is defined positively, in terms of its essential and inherent meaning, and the other is defined negatively, as not inherently possessing the meaning of the 'marked' member, although it may nevertheless frequently express other meanings, and sometimes may even carry the meaning which is inherent in the 'marked' member. . . . (Forsyth 1970:6)

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[5] Italic emphasis mine.

It must be emphasized that a "privative opposition" is a *general*[6] description of the meaning of a grammatical category (Jakobson 1932; as cited by Forsyth 1970:7).

1.3.2 Definition of the perfective and imperfective aspect by a privative opposition

Forsyth mentions that the idea of "privative opposition" is particularly useful in the analysis of the relationship of the aspects in Russian (1970:6). He defines the meaning of the perfective aspect thus: *"a perfective verb expresses the action as a total event summed up with a reference to a single specific juncture"* (1970:8). Subscribing to the privative approach, Forsyth then states that "the imperfective does ***not*** *inherently express the action as a total event summed up with a reference to a single [specific] juncture*"[7] (1970:11).

1.3.3 Opposition between determinate vs indeterminate VOM

As to the juxtaposition of the categories of determinate and indeterminate in his book, Forsyth appears to approach them by both the privative and equipollent methods. His statement that "the ходить-type ***never*** *express a single progression along a path at a given moment*"[8] (1970:321) introduces an equipollent juxtaposition. It then follows, that идти-type verbs express motion as "*a single progression along a path at a given moment*"[9] (interpolated into Forsyth (1970:321) by me). Earlier Forsyth states that determinate verbs express "motion taking place at a specific moment and therefore in one direction"[10] (1970:320). If one were to complete the juxtaposition privatively, it could be said that the indeterminate does ***not*** necessarily "*express motion taking place at a specific moment and therefore in one*

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[6] Italic emphasis mine.

[7] "Not" is italicized in the original quote; the italics in the rest of the quote and the bolding of "not" have been added by me.

[8] Bold and italic emphasis mine.

[9] Italic emphasis mine.

[10] Italic emphasis mine.

direction"[11] (interpolated into Forsyth (1970:320) by me). At the end of his chapter where he analyses determinate and indeterminate verbs Forsyth concludes:

> In the position of the two imperfectives, the indeterminate has the wider range of meanings, and at two points at least can substitute for the determinate. . . . The indeterminate imperfective can therefore be considered the unmarked member of the opposition of the determinate and indeterminate. (Forsyth 1970:346)

Reference to "marked" and "unmarked" features normally implies a privative relationship, which I believe Forsyth is suggesting about the opposition in meanings between the determinate and indeterminate verbs, even though he also takes an equipollent approach to the sub-aspect categories.

To develop the differentiation between determinate and indeterminate verbs more simply and more logically, Forsyth and others begin with the идти-type because it is the least ambiguous member, i.e., it is the "more clearly-marked" member of the pair (1963:147). My work here also tends to approach analysis with the идти-type VOM.

This thesis acknowledges both the equipollent and privative methods in discriminating between the determinate and indeterminate sub-aspects. Although it was not the aim of my investigation, the question of the type of opposition has come in for scrutiny and it appears to me that in general the opposition between the VOM is equipollent: the идти-type express motion as ". . . *a single progression along a path at a given moment*"[12] (interpolated into Forsyth (1970:321) by me); and "the ходить-type ***never express a single progression along a path at a given moment***"[13] (Forsyth 1970:321).

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[11] Italic emphasis mine.

[12] Italic emphasis mine.

[13] Bold and italic emphasis mine.

1.4.0 Functions of the imperfective as they apply to VOM

1.4.1 The definitions of progressivity, durativity and iterativity in imperfective verbs

The three fundamental contexts in which imperfective verbs are employed make up three categories that are not distinct, but intersecting in meaning: "progressivity," "durativity" and "iterativity." Not all imperfective verbs possess or display all three. According to Forsyth, descriptions of the imperfective traditionally involve definitions of its functions: (a) expression of continuous action (1970:4) or continuous process (1970:326), and (b) expression of repeated action (1970:4). The notions of "progressivity" and "durativity" are enveloped in item (a) above.

The notion of "continuousness" is often called "progressivity" (progressiveness).[14] Foote refers to it as "actuality": "the action is envisaged as 'actual' or in progress" (Foote 1965:7). Forsyth (1970:326) also refers to it as "continuous process," which includes "duration of action." Rassudova addresses it as "processuality" (1984:18, 28-38). Comrie defines "continuousness" as "imperfectivity that is not habituality" (1976:26) and considers "progressivity" a constituent of "durativity" (Comrie 1976:33). Comrie maintains that "durativity" "simply refers to the fact that the given situation lasts for a certain period of time" (1976:41), no matter how short. "Iterativity" or "habituality" "is the repetition or the successive occurrence of several instances of the given situation" (Comrie 1976:27).

1.4.2 Distinction between "progressivity" and "progressive motion"

Foote uses the term "*actuality*" to indicate it as a feature of determinate motion: "action is envisaged as 'actual' or in progress" (1967:7); however, he acknowledges that it is a feature of the imperfective aspect and common to both members of the sub-aspect VOM. The English compound progressive form is described in this way also. There can be some misunderstanding in the meaning of the terms that contain the lexical element "progress" or "process," in particular when they are connected with defining VOM. The terms "progressivity," "motion in progress," "motion in process," "continuous process," are considered synonymous with "actuality," "continuity of action," or "continuousness." All of the above underscore a temporal nuance which can be confused with the phrase, "*progressive motion,*" used by Foote. He (1967:7) uses the term "*progressive* motion" to mean "motion that involves the subject (or object in the case of the transitive verbs) in a [resultant] *change of location,*" which is exclusive to the meaning of the determinate verb. "*Progressive motion*" is motion taking place progressively in space. In this spatial nuance is inherent a sense of "direction."

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[14] Not to be confused with "*progressive* motion" which implies "*change in location*" (Foote 1967:7). See Segment *1.4.2*.

On the other hand, *progressivity*, also, can be considered to be steeped in nuances that are temporal and spatial. A clear-cut distinction among the terms is difficult. Forsyth states that "movement 'in process' in fact implies the specification of both time and direction, and the most satisfactory descriptions of the meaning of **идти** are those in which both are mentioned" (1970:148).

1.4.3 Common imperfective nature of VOM

Several of the characteristics often attributed to the indeterminate verb actually stem from its imperfective nature. The two categories of VOM have a common imperfective heritage. It is because of its imperfective nature that these characteristics appear in the determinate verb also. The shared similarities, however, are governed by the unique natures of their individual motion types.

The usual approach is to say that determinate are "*durative*" and indeterminate are "*iterative*." The reason that indeterminate verbs are called iterative is because they often are used to present multiple actions. Thus the term "*iterative*," addressing the indeterminate sub-aspect, is used to contrast the verb type from the determinate which is frequently applied in a "*durative*" sense when "the speaker is concerned with the development of the action at a certain time" (Forsyth 1970:322). According to Forsyth, the terms iterative and durative accent "non-essential facets of meaning" (1970:322) in **идти**- and **ходить**-type verbs, (i.e., the durativity and iterativity, normally, are expressed contextually with adverbs). Furthermore, "the action expressed by a **ходить**-type verb can (like that of any imperfective) be presented duratively" (Forsyth 1970:323). As an example, Forsyth gives:

> {Дима *долго* носил в кармане изрядную сумму, упакованную в конверт с идиллическим рисунком, но не решался идти к следователю (E. Braginsky and E. Ryazaanov: Берегись автомобиля.)[15]--*'For a long time Dima carried about in his pocket a considerable sum of money in an envelope with an idyllic picture on it, but he couldn't bring himself to go and see the investigator'*}. (Forsyth 1970:323)

According to Forsyth (1970:323), the use of the term "*iterative*" in conjunction with ходить-type verbs is deceptive because there is the implication that (a) the principle role of indeterminate verbs is "to express repetition of the action (i.e., its performance on several occasions)"; and that (b) "whenever multiple action" is to be presented, only ходить-type verbs can be employed. The reason ходить-type verbs are used to show iterativity is because they are of the imperfective aspect and iterativity is one of the functions that have been applied to the imperfective aspect. Indeterminate verbs do not have exclusive possession of the expression of iterativity because determinate verbs also being imperfective are often used in this manner. The following example shows a determinate verb expressing iterativity:

> {Почти месяц он выдержал, давалось ему это нелегко; ***каждый вечер*** он шёл к Пуховым и, доходя до аптеки на углу улицы, поворачивал назад (Erenburg: Оттепель)--*'He held out for almost a month, and it wasn't easy for him. Every evening he walked to the Pukhov's house and, when he reached the chemist's shop at the corner, turned and went back'*}. (Forsyth 1970:323)

What is relevant in both cases is the type of underlying motion that is described.

1.4.4 Criteria aiding in the distinction of meanings in Russian VOM: ***"essential/ non-essential," "exclusive/ non-exclusive," "aspectual/ non-aspectual," "contextual/ non-contextual"***

Clarification of the definition, characteristics, and functions of the perfective/ imperfective aspects and of the imperfective sub-aspects of the determinate/ indeterminate can be aided by applying the criteria implied by terms such as "**essential/ non-essential**" meaning, "**exclusive/ non-exclusive**" meaning, "**aspectual/ non-aspectual**" meaning, or "**contextual/**

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[15] Forsyth refers to other texts and authors, often without specific source references.

non-contextual" meaning. Features and functions of VOM can be described by combination of the members of the pairs. See Table 1.2.

The feature "**essential**" implies meaning that is *necessary to the definition of a grammatical category* while "**non-essential**" meaning refers to an attribute *not necessary to it.* "**Exclusive**" means that a feature is *found in only one of the members of an opposed pair*. "**Non-exclusive**" signifies that *both sub-aspects are defined as having the same function*. The reference "**contextual**"[16] pertains to *a distinction that is not denoted by the verb form itself*, i.e., its meaning depends upon the "context" of the sentence, primarily adverbial accompaniment (Forsyth 1970:4,15), or upon the intention of the observer/ speaker for its meaning. The reference "**non-contextual**," specifies *denotation that comes from the meaning inherent in the word itself*, whether **aspectual** or **non-aspectual**. "**Aspectual**" meaning" refers to aspect as an "element of grammatical meaning" (Forsyth 1970:325), which can be **contextual** or **non-contextual**. "**Non-aspectual**" denotation of the action is the difference between '*to swim*' (плыть/плавать) *vs* '*to walk*'(идти/ходить), i.e., the difference in the "basic lexical meaning of mode of locomotion" (Forsyth 1970:325)--the naming of the "type of action." The difference in style of motion between the determinate and indeterminate verb is a "grammatical" or "aspectual"[17] denotation. The terms **non-contextual** and **aspectual** overlap with the terms **literal-lexical** and **lexical-grammatical**, respectively, discussed earlier in Segment *1.2.2*.

Looking at Table 1.2, in which I have compiled and amended ideas presented by Forsyth, one can see how he has thrown his spotlight on what are the distinctive general meanings in the grammatical categories of perfective/ imperfective and determinate/

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[16] The terms "**contextual**"and "**non-contextual**" are used in different senses in this thesis. One way these terms are applied is in the description of *lexical* and *grammatical* meanings in Segment *1.4.6*. They refer to whether a meaning is implied inherently in the denotation of the word itself or is aided by other words like adverbs of time in a sentence--a syntactical meaning. Another way the terms are applied is as the visual perspective of VOM action in relation to "motion along a line," which appears mainly in Chapter IV.

[17] One could say "sub-aspectual" because it is dealing with the determinate sub-aspect.

indeterminate. When it is deemed that a defining feature be *necessarily stated in the definition of one of the members of an opposed pair, but not stated in the description of the other, although it may be found in it,* we have juxtaposition of terms by a "privative opposition." The meaning is **essential**, inherent (**non-contextual**) to the "general" meaning, for instance, to the perfective (item (a) in Table 1.2), the "marked" category of the aspect pair. Whether presented as privative or equipollent, the statements (items (c) and (e) in Table 1.2) describing the determinate verbs are **essential**, inherent (**non-contextual**), **aspectual**, and, in my opinion, virtually **exclusive** to the determinate category.

Forsyth also states that, "All that is inherent in imperfective verb forms in general (apart from the specific grammatical-functional meaning of tense, mood etc.) is the lexical element" (1970:15). That is, the only essential inherent meaning of the imperfective is naming the action without reference to perfectibility (Forsyth 1970:6). In Forsyth's words, "the essential function of an imperfective verb is to name the action, or rather type of action, concerned--'write' as distinct from 'run,' 'sing', 'open,' etc." (1970:15). The function of "naming," common to all imperfective verbs, also belongs to both the determinate and indeterminate verbs. "Naming," transposed to VOM, is the **literal-lexical meaning** of mode of locomotion, e.g., '*to move on foot*' (идти/ходить) as opposed to '*to swim*' (плыть/плавать). Being common to both sub-aspects, this function is **non-exclusive** to either. "Naming," to quote Forsyth, is "non-aspectual denotation of the action" (1970:326). It is also **non-contextual**. See items (g) and (h) in Table 1.2.

According to Forsyth, along with "naming" of the action, the "ability to imply continuous process and repetition" (Forsyth 1970:326), common to the imperfective aspect, may be expressed by both determinate and indeterminate. The latter features are **aspectual**, **non-exclusive** to either sub-aspect, **non-essential**, and **non-contextual** functions of both types of VOM. See items (i), (j), (k), (l) in Table 1.2.

In a sentence such as, {Один жилец варил раков--'*One lodger boiled crayfish*'}, stripped of adverbs, it is unknown whether an appropriate adverb might be часто ('used to boil') or сейчас ('was boiling') (Forsyth 1970:5). The same cannot necessarily be said about imperfective VOM. For example, in the sentence, "{Сейчас он ходит в саду--'*He is walking* *in the garden just now'*}" (Forsyth 1970:322), a temporal adverb describing a present moment of time, "сейчас *'now,'*" is used with an indeterminate verb, "ходит *'is walking,'*" to indicate repetition. In the sentence, "{Каждый день в 9 он идёт в контору--*'Every day at 9 he goes to the office'*}" (Foote 1967:7), a temporal adverb indicating repeated time, "каждый день *'every day'*" is used with a determinate verb. The adverbial context does not affect the inherent meaning of the sub-aspect.

It has been pointed out that the feature of *actuality*, i.e., *progressivity* or *continuous process*, being characteristic of the imperfective aspect can be common to both the determinate and indeterminate sub-aspects. However, the determinate sub-aspect has an **exclusive** meaning related to *continuous action*. The function of future action, e.g., {Весной он летит в Москву--*'He is/will be flying to Moscow in the spring'*}, belongs only to the determinate verb (Forsyth 1970:326). Although *actuality* is not an exclusive feature of идти-type verbs, the idea of *actuality* conveyed by such verbs accounts for their use in referring to actions due to take place in the future, which in these circumstances makes it an exclusive attribute of the determinate verb. The following sentence from Foote (1967:8) is an example: "{Летом отец везёт семью в СССР--*'In the summer Father is taking (=will take) the family to the USSR'*}." The "expression of future action," a specialized function of determinate verbs, is **exclusive** and **aspectual** only to the category of the determinate sub-aspect: the present tense form of indeterminate verbs cannot be used to refer to future action. *Actuality* expressed by the use of the determinate verb as a description of future action is **contextual** because the meaning is conveyed with the aid of a future time adverbial.

As Foote (1967:8) notes "other verbs are occasionally used in a similar way, {Сегодня вечером я играю в шахматы--*'I am playing chess this evening'*}, but not with "the full flexibility to act in this way possessed by the determinate verbs of motion." Foote (1967:8) continues: "The context for using the determinate as future is always the same: the action referred to is one already arranged or decided upon and so is going to take place" and "must be straight forward actions of going."

The expression of "two-way action in the past tense" (Forsyth 1970:326), e.g., {Весной он летал в Москву--*'He went to Moscow (and back) in the spring'*}, a specialized function of the indeterminate verb, is **exclusive** to the category, **aspectual**, and **non-contextual.**

The terms in this segment can be applied to Foote's list of three features of determinate motion (1967:7): (1) "simple motion along a line," (2) "*progressive* motion," and (3) "actuality." As well as being **aspectual** and **non-contextual**, the features in items (1) and (2) may be considered **inherent**, **exclusive**, and **essential** to a general definition of the determinate. Feature (3) is **contextual** and **aspectual**, and being common to both sub-aspects, is thus **non-exclusive** to either, except in description of "future actions" where it is **exclusive** to the determinate. Later in the discussion, we will see that of the three features mentioned above, (1) and (2) are the essence of the notions of **direction** (as *simple motion along a line*) and **direction** (as *the result of displacement over elapsed time*) in the description of determinate verbs.

1.5.0 Focus of the next chapters

The next chapters will attempt discussion and graphic presentation of the **essential** meaning which differentiates between determinate and indeterminate VOM. As has been pointed out, one way that the inherent meaning of the determinate verb of motion is presented is that it "*expresses motion taking place at a specific moment and therefore in one direction*"[18] (Forsyth 1970:320). Another way, is that it expresses " *a single progression along a path at a given moment*"[19] (interpolated into Forsyth (1970:321) by me). It will be seen that the unique difference between sub-aspects is in the distinctive type of motion of each.

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[18] Italic emphasis mine.

[19] Italic emphasis mine.

Table 1.1: COMPARISION OF THE USES OF SIMPLE VOM

*_The examples in this Table are copied verbatim from Table 4 in Muravyova (1978:244), which is entitled_ “Comparision of the uses of Verbs of Motion with and without Prefixes.”

VERBS OF UNIDIRECTIONAL MOTION	VERBS OF MULTIDIRECTIONAL MOTION
1.**Он идёт по улице.** At the moment of speaking or observation the agent is moving in one direction.	1.**Он ходит по улице.** At the moment of speaking or observation the agent is moving in various directions.
2.**Он идёт в школу.** At the moment of speaking or observation the agent is moving towards his destination.	2.**Он ходит в школу.** Repeated (habitual) movement of the agent to his destination including a stay in the place concerned (the verb **ходит** is synonymous with the verb **бывает** or **посещает**).
3.**Вчера он шёл в школу и встретил друга.** In the past and future tense these forms denote momentaneous movement in one direction and are generally used in descriptive passages.	3.**Вчера он ходил в школу.** In the past tense this form denotes the agent's momentaneous movement in two different directions (there and back) (the verb **ходил** is synonymous with the verb **был**).
4.**Каждый день он шёл в школу мимо нашего дома. Обычно после занятый он идёт домой.** The verb either denotes repetitious movement in one direction or stresses the fact that movement takes place only in one direction (only there or only back) **Каждое утро он вставал рано, завтракал и шёл на работу.** When consecutive actions are implied, movement may be represented as taking place in one direction only.	4.**Каждый день он ходил в школу мимо нашего дома.** The verb denotes that agent's repeated movement in two different directions (there and back).
5.**Завтра он идёт в театр.** A special use of this present tense form with a future meaning.	5.**Ребёнок уже ходит.** The verb denotes the agent's ability to move.

Table 1.2: MEANINGS AND FUNCTIONS OF VOM*

**This Table, compiled by Sharon Bahry, is adapted from the ideas presented in A Grammar of Aspect (Forsyth (1970))*

RUSSIAN VERBS

PERFECTIVE VERB		IMPERFECTIVE VERB
(a) "*expresses the action as a total event summed up with a reference to a single specific juncture*" (Forsyth 1970:8)	← a privative opposition →	(b) "*does **not** inherently express the action as a total event summed up with a reference to a single [specific] juncture*" (Forsyth 1970:11)

TYPE OF MEANING	DETERMINATE VOM [ИДТИ- TYPE]		INDETERMINATE VOM [ХОДИТЬ- TYPE]
✓Essential **✓Aspectual** **✓Non-contextual**	(c) *expresses "motion taking place at a specific moment and therefore in one direction"* (Forsyth 1970:320)	← a privative opposition →	(d) *does **not** inherently express "motion taking place at a specific moment and therefore in one direction"* (interpolated from Forsyth 1970:320)
✓Essential **✓Aspectual** **✓Non-contextual** **✓Exclusive**	(e) *expresses "a single progression along a path at a given moment"* (Forsyth 1970:321)		(f) *never express a single progression along a path at a given moment* (Forsyth 1970:321)
✓Essential **✓Non- exclusive** **✓Non-aspectual** **✓Non-contextual**	(g) *names the action* (characteristic of imperfective and thus the determinate and indeterminate). Both ИДТИ and ХОДИТЬ name the 'type of action', which is the same in each, i.e., '*to go by foot,*' [**basic-lexical** meaning], but distinct from other VOM pairs such as ехать/ ездить '*to go by conveyance*' [**basic-lexical** meaning]. All VOM express the **underlying-lexical** meaning, the action, '*to go.*'		(h) *names the action* (characteristic of imperfective and thus the determinate and indeterminate). Both ИДТИ and ХОДИТЬ name the 'type of action', which is the same in each, i.e., '*to go by foot,*' [**basic-lexical** meaning], but distinct from other VOM pairs such as ехать/ ездить '*to go by conveyance*' [**basic-lexical** meaning]. All VOM express the **underlying-lexical** meaning, the action, '*to go.*'
✓Non-essential **✓Non-exclusive** **✓Aspectual** **✓Non-contextual**	(i) *expresses continuous motion* (Forsyth 1970:4) [encompassing the terms *progressivity*, (*actuality*), and *durativity* (k) *expresses repeated ation* Forsyth 1970:4) [also referred to as *iterativity*] [both items characteristic of the imperfective aspect (Bahry: Segment *1.4.6*]		(j) *expresses continuous motion* (Forsyth 1970:4) [encompassing the terms *progressivity*, (*actuality*), and *durativity]* (l) *expresses repeated ation* (Forsyth 1970:4) [also referred to as *iterativity*] [both items characteristic of the imperfective aspect (Bahry: Segment *1.4.6*]
✓Exclusive **✓Aspectual** **✓Contextual**	(m) *expresses future action* (Forsyth 1970:326), [e.g., Завтра я иду в кино.]		
✓Exclusive **✓Aspectual** **✓Non-contextual**			(n) *expresses two-way action generally restricted to the past tense* (Forsyth 1970:326- 327). [e.g., Я ходил в кино вчера.]

CHAPTER II: ELEMENTS OF TIME AND DIRECTION IN THE DEFINITION OF SIMPLE VERBS OF MOTION

2.1.0 Introduction: elements of time and direction contributing to the definitions of идти-type verbs

2.1.1 Definitions of идти-type verbs with emphasis on one or the other: a "definite time" or a "definite direction"

According to Forsyth, grammars in describing the meaning of идти-type verbs usually stress "one or the other of two factors: a definite direction or a definite time" (1963:147). As an example of a definition with emphasis on "a definite direction," Forsyth (1963:147) mentions the following: идти "*describes a movement which takes place in one definite direction*"[1] (Pulkina and Zakhava-Nekrasova). As an example of a definition of идти that emphasizes "a definite time," Forsyth (1963:147) quotes Haywood: идти "*expresses continuous action on one occasion only.*"[2] Forsyth (1963:148) suggests that the definition is best when both factors are included such as Potapova's: "*verbs of the idti type indicate movement in a definite direction and definite time.*"[3]

In the discussion in this chapter, the notion of **time** and the notion of **direction** as they relate to VOM will be dealt with separately, to the extent possible, in Sections *2.2.0* and *2.3.0*. From time to time, it will be impossible to separate the two, but the emphasis will always be on one or the other factor.

2.1.2 Themes expressed by words used in the definitions of идти-type verbs

Table 2.1 gleans elements from definitions of идти-type VOM which can be found in many Russian grammar books. The type of action characteristic of the determinate verb, as revealed by the aforementioned definitions, is not immediately made clear by the individual words that are used in its various denotations. When these are analyzed, four themes, generalized into the notions of **time** and **direction**, can be delineated from words concerning **progression, time restriction to a moment**, **unidirectionality**, and **action toward a goal**.

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[1] Italic emphasis mine.

[2] Italic emphasis mine

[3] Italic emphasis mine.

It is uncommon to find a definition which states all four themes. If, for instance, to Cioran's description of the **unidirectional** imperfective (1992:107) were added the phrase "at a given moment" (1992:108), a comprehensive definition[4] of determinate motion arises that would contain all four components: the unidirectional imperfective *"describes an action that is taking place in one direction, from point a to b . . . at a given moment."*[5] "**Progression**" is implied by *"an action that is taking place"*; "**unidirectionality**" by *"in one direction"*; "**action toward a goal**" by *"from point a to b"*; and "**time restricted to a moment**" by *"at a given moment."*

2.2.0 Time

2.2.1 Time-related terminology

In the cosmic sense, time as a notion is perceived as a continuum. Webster's New World Dictionary[6] describes time as (1) *"duration; continuance"*; (2) *"a period or interval"*; (3) *"a point in duration; moment; instant; occasion."* Each of these descriptions has relevance to **time** as it pertains to determinate VOM. Forsyth (1963:147) acknowledges that the concept of **time**, in the Haywood definition of the **идти**-type verb, referred to as an "occasion," is important, but needs more precise clarification. The attempt to clarify the significance of "**time**" in **идти**-type verbs in contrast to that in the **ходить**-type introduces several concepts that point in the direction of **time**. Various terms, such as *progressivity, iterativity, durativity, actuality*, and *continuousness*, exhibiting temporal nuances have been introduced in Chapter I. Table 2.1 lists phrase variations culled from definitions expressing

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[4] In correspondence with University of Alberta Slavics professor, Tom Priestly, Cioran has indicated that it, indeed, would be a good idea to put the phrase "at a given moment" together with the description "an action that is taking place in one direction, from point A to point B."

[5] Italic emphasis mine.

[6] The italic emphasis in the following definitions is mine.

time-related facets: *one occasion, a specific moment of time, uninterrupted, continuousness,* etc. Other terms (*actual present,* POV, *tense, location (space), observer, speaker, context, along a line,* etc.) relevant to temporal conditions of VOM will crop up in this discussion.

*2.2.2 **Time**: continuity of action (duration, progressivity, actuality)*

As mentioned earlier in Segment *1.4.1*, which describes the functions of the imperfective verb, the idea of "continuous action" or "continuous process" includes the nuances implied by terms progressivity, actuality, and durativity. To present a more precise definition of "the time or occasion of the movement" (Forsyth 1963:147) in determinate verbs, Forsyth underscores a temporal feature that is often included in their description. He claims that the idea of "continuous action" as expressed in the Haywood definition is the crux to refining the meaning of the notion of **time** as it relates to **идти**-type verbs (1963:147).

Description of the motion of **идти** as "continuous action," and similar expressions from other definitions--"action is (was, will be) in progress at a given point in time"[7] (Birkett, as cited in Forsyth (1963:147)); "action in the process of occurring"[8] (Hingley, as cited in Forsyth 1963:148); or "to be actually on the way"[9] (Semeonoff; as cited in Forsyth 1963:148)--are ways to point to motion that is **"in process," "in progress."** The sense of being "in process" identifies the determinate verb because it leaves the impression that at the moment of observation or speaking, the action is happening, at this particular one time--now!

Actuality where "the action is envisaged as 'actual' or in progress" (Foote 1967:7) is one of the three features of motion that Foote states is manifested by **идти**-type verbs. As does Forsyth, Foote points out that "actuality is, though, not an exclusive attribute of determinate verbs" (1967:8), but is characteristic of the imperfective aspect to which both determinate and indeterminate members of the imperfective VOM pair belong. The difference within the sub-aspect pair has to do with the view that an observer (hypothetical or not) or speaker of the sentence chooses to take of the action as well as "the nature of the movement" (Foote 1967:8) in the action.

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[7] Italic emphasis mine.

[8] Italic emphasis mine.

[9] Italic emphasis mine.

2.2.3 Time: restriction on the determinate

The occasion involving the action of a determinate verb may have duration and appreciable length. **Time** as "*a period or interval*" has the sense of "one occasion," i.e., "an event" or "a slice" of time. The total projected span of time (occasion of time) that a determinate VOM encompasses never changes. Because the action of the determinate verb is "in process," its duration can be expressed in a general sense, (i.e., the time an object takes in going some place in particular is the time needed until it gets there, although its getting there is not relevant); however the duration is not quantifiable.

Durativity (as action that is in progress and lasting for a certain period of time on a given occasion) is commonly considered a function of the determinate verb to contrast it from the indeterminate, which is usually described as *iterative*. *Iterativity* can also be action that is in progress and lasting for a certain period of time, but there must be more than one successive occurrence of the occasion of the given situation.

Forsyth delineates the notion of **time** w. r. t. VOM when he states that, "the chief characteristic of идти-type imperfectives is that *the speaker's view of the action is restricted to a specific moment of time*"[10] (1970: 319). Several elements make up this description--action is taking place within the duration of the "moment of time"; there is a speaker (observer); he/she limits his/her POV of the action to a "moment of time" that is "specific." In other definitions, "specific" is used interchangeably with "particular," "given," "definite," and so on.

The temporal reference "a specific moment of time" indicates that determinate motion is motion that has a *particular* time restriction on it. Although in determinate verbs the action is generally understood to be restricted to observation at "a specific moment of time," i.e., a given instant of time, Forsyth indicates that there can be a variable time span describing the action of the determinate verb that is longer--minutes, hours, a day.

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[10] Italic emphasis mine.

The "moment of time," as it concerns the determinate verb, encompasses time from "*one instant*" to "*any period of time within which the motion takes place continuously, at one 'go*'"[11] (Forsyth 1970:320) within the duration of the action. This explanation of "moment of time" then can be considered "a more precise explanation" by Forsyth of Haywood's reference to the action of a determinate verb as happening on "one occasion." "One occasion," can be "a specific moment" that is an instant or longer and "a specific moment" can be "one occasion." The adverb, "only" in the extended phrase by Haywood "on one occasion only" refers to the restriction of absence of *iterativity* as discussed in an earlier paragraph in this section.

*2.2.4 **Time:** a specific moment--the actual present*

On one end of the time restriction on the determinate, there is what Forsyth calls "the actual present" (1970:147). An example of the usage of "the actual present" would be found in stage directions such as, "{Он лезет по лестнице и бежит в зал--*'He climbs up the stairs and runs into the hall'*}." This means that "the climbing" and "the running" is in progress "now." If this were not a stage direction the verbs could be translated as "*is climbing*" and "*is running*" to indicate an English translation of the Russian determinate sub-aspect.

The explanation by Forsyth that "the imperfective denotes the *actual present* of contemporaneous actions" (Forsyth 1970:147) or "analogous viewpoints adopted with reference to the past or future" (Forsyth 1970:319) can be specifically applied to determinate verbs. In a global sense, as far as determinate verbs are concerned, "the motion of the subject is, as it were, observed taking place 'now'" (1970: 319), whether the observer is in the past, the present, or the future. See the discussion on tense in Segment *2.2.8*.

"The point of the actual present" (Forsyth 1970:319), i.e., an instant of time, is the narrowest moment of the "moment of time" (Forsyth 1970:319). A "point" or "an instant of time" is a length of time that cannot be any shorter. It lacks any appreciable length. It does not have duration. Time (t) = zero.

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[11] Italic emphasis mine.

The "duration" of **time** is made up of "instants" or "points" of **time**. At any point along the line of movement of the subject, the speaker/ observer can take a view that is limited to a particular moment of time, an instant. This is the case for the extreme end (one instant) of the gamut of the meaning of "moment of time" rather than the other extent (of continuous action at one 'go').

Each instant of time, as it pertains to determinate motion, is found within a limited duration of time--from the point the action starts to the penultimate point before it is finished. That is, the subject of a determinate verb never gets to its destination, always being "in process." When action expressed by the determinate verb is progressing, *actuality*, the sense of happening now, emanates. Within this "nowness" are included specific instantaneous moments of time.

The scope of the view of an instant of time is so narrow that it excludes indeterminate motion. Even if the present tense of the indeterminate were used, for instance, "{**Сейчас он ходит в саду**--*'He is walking in the garden just now'*}" this "viewpoint of the present moment" "can never coincide with the instantaneous moment of the actual present" (Forsyth 1970:322). There is a presentation of an inherently wider view lasting a number of moments of time in **ходить**-type VOM. Whenever the speaker/ observer transfers his concentration from the wider view to the movement happening at any particular instant he must apply the determinate verb:

> {**Сейчас он ходит в саду. Вот он сейчас идёт по тропинке от калитки к яблоне**--*'He is walking in the garden just now. There he is walking along the path from the gate towards the apple tree'*} (Forsyth 1970:322).

Understanding of the whole thought of the sentence in which is used the determinate form requires not only the instantaneous perception provided by the verb **идти** *'to go'*, but "memory" of source and "anticipation" or view of goal.

*2.2.5 **Time**: continuous motion at one "go"*

As a contrast to an "instant" of time being used to describe the focus of determinate motion, Forsyth presents an example of "continuous motion at one 'go,'" lasting more than an instant through the total duration of the action:

> {Сколько времени он сюда будет ехать? Не знаю. Минут двадцать, двадцать пять (Semyonov: Petrovka; as cited in Forsyth (1970:320))--*'How long will it take him to get here? I don't know. About twenty or twenty-five minutes'*}. (translated by Forsyth (1970:320))

Ward (1965:254) states that the length of the time that the action involves, when the determinative verb is employed, is immaterial as is shown by his comparison of the following two sentences: "{Они ехали весь день--*'They were driving all day'*}" and "{Весь день они ездили по городу--*'All day they drove around the town'*}." In the first sentence the whole day "is reduced to a moment of observation, or the moment of observation is *any* moment during the day" (Ward 1965:254). In the second sentence "the day is not reduced to a single moment of observation, nor is a single moment extracted from the day and observed in isolation" (Ward 1965:254) and thus the determinate cannot be used. Instead the indeterminate is appropriate.

Forsyth presents another example where the time element, "a specific moment," as it applies to VOM, is not indicated and thus the indeterminate rather than the determinate must be used: {Малыш ещё не умеет ходить! (Vlasova)[12]--*'The baby can't walk yet!'*} (Forsyth 1970:321). This is because, the motion that is basically denoted in these verbs is "motion as a generalized phenomenon without reference to any specific occasion" (Forsyth 1970:321). This goes along with the definition of indeterminate motion given by Forsyth: "*verbs of the ходить type never express a single progression along a path at a given moment*"[13] (1970:321).

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[12] Forsyth refers to texts and authors, often without specific source references.

[13] Italic emphasis mine.

2.2.6 ***Time:*** *POV*

The particular moment of time chosen to be described in the sentence is dependent on the view that the speaker/ observer takes. See Figure 4.5 and its explanation in Segment *4.1.8.* Views of the action by the observer can be made along "the length" of the action and what I call "the breadth" or "depth" of the movement depending upon whether the verb is determinate or indeterminate. By this I mean a determinate verb will refer to an instant of time along the length of the action (Figure 4.5(c)) while the indeterminate verb will refer to the total time spent on the action which includes the length and breadth of the completed tour (Figure 4.5(b)), no matter how many times it is repeated (Figure 4.5(a)).

2.2.7 "Actual present" and Tense

When we are talking about **time** in reference to идти-type VOM we do not mean **tense**. The sustainment of the notion of the *actual present* in "analogous viewpoints adopted with reference to the past or future" (Forsyth 1970:319) indicates that grammatical tense, generally, does not nullify the sense that the action is happening "now." Determinate action which has the sense of "nowness" or "actuality" can be described from the present, past, and future, whether the event described is taking place in the present or not, because **tense** merely "denote[s] time in relation to the moment of speech" (Academy Grammar (1960:I:521), as presented in Forsyth (1970:299)).

The notion of **tense** suggests a spatial as well as temporal nuance in its meaning. When a speaker comments on the action, he places himself at a point relative to the time-continuum of the action. This position can be expressed grammatically by **tense** in past, present or future forms. It could be said, that no matter the "tense" an observer/speaker is at, or no matter the time at which the speaking noting the motion occurs, he can still be describing "a specific moment in time" of the action. This time is reduced to the sense of "the now," the *actual present*. According to the laws of physics, at this specific moment of time the body is now moving in one direction. This idea will be developed later. The determinate verb is used to describe the action in process as if it were happening now, whatever the tense required. The observer's viewpoint includes "tense" and a time interval that is "a specific moment of time."

Looking at Figure 2.1, assume a body is moving from A to B. At the moment of speech, if the omniscient speaker is positioned at (v2) and he observes the body in motion at (p2) at (t2), he may say about it, "Сейчас оно идёт мимо меня--*'It is going by me now'*}." At the moment of speech, if the omniscient observer is at position (v2) and the body has not reached (p2) at (t2) from (p1), he can say "{Скоро оно будет идти мимо меня--*'Soon it will be going by me'*}." As has been pointed out, the future can also be indicated with the present form of the determinate VOM and an adverb of time: {Скоро оно идёт мимо меня--*'Soon it will be going by me'*}. At the moment of speech, if the omniscient observer is positioned at (v2) and the body has passed (p2) at (t2) in the direction of (p3), he can say "{В прошлом оно шло мимо меня--*'In the past it was going by me'*}." The motion can be viewed as still occurring in the *actual present*, at a specific moment, in spite of the position of the observer/ speaker and his/her relationship to the time-continuum.

*2.2.8 **Time:** common temporal distinctions between determinate and indeterminate* VOM

The common distinctions between determinate and indeterminate, such as *specific/ generalized, concrete/ abstract, or actual/ potential, frequentative/ non-frequentative*, all incorporating temporal references, are adequate in most applications. For instance, "{Он ходит в школу--*'He goes to school'*}" is "a general statement, with no reference to any specific occasion of going" (Foote 1967:8). In contrast, "{Он идёт в школу--*'He is going to school'*}" is "a statement that the subject is now on a given occasion [and observed at a *specific* instant] on his way to school" (Foote 1967:8).

Foote states that determinate verbs point to specific moments--"a *particular* or *concrete* performance of the action" (Foote 1967:7); however, he continues, movement on a particular occasion can also be described by the ходить-type: "{Он сейчас ходит по комнате--*'At the moment he is walking about the room'*}" is "no less 'actual' or 'concrete' than {Он идёт в школу--[*'He is on the way to school'*]}--the action is in progress at the moment of observation" (Foote 1967:8). Foote points out that the difference in the use of the ходить-type or идти-type in the situation of a specific occasion "lies not in the actuality or potentiality of the action, but in the nature of the movement" (1967:8). Forsyth, as well, presents an example of the ходить-type expressing motion on a specific occasion: "ходить" in the past tense also "can express movement 'on one occasion only,' albeit, a two-way journey: {Я ходил в школу--*'I went to school (and came back)'*}" (1963:147).

On the other hand, the implication that идти-type verbs cannot express repeated action (as implied by the opposition *non-frequentative/ frequentative)* is false.[14] Determinate verbs can refer to ***habitual or typical*** actions (which are not "specific movements"): "{Каждый день в 9 он идёт в контору--*'Every day at 9 he goes to the office'*}" (Foote 1967:7). This is not a particular or concrete performance of the action, but every morning at 9 if you looked out a window, for instance, you would see him walking along his path toward his goal. The action is straightforwardly advancing and this typical action is reduced to a moment of observation.

Determinate verbs can refer to *potential* actions in *general statements*: "{Приятно идти под дождём--*'Its nice to walk in the rain'*}" (Foote 1967:7). Whenever one walks in the rain, it is on one occasion. Each time, there is emphasis in actually doing it once on each occasion and enjoying it. Every time, it is "envisaged as 'actual' or in progress." It is the specificity of the time that it is raining that is being emphasized. If the observer looks out at a given time, he sees a person walking in the rain. When that moment occurs the speaker/ observer can say "идёт" to describe the walking individual. The occasion is "reduced to a moment of observation" (Ward 1965:254). To repeat Foote's words, "the difference here lies not in the *actuality* or *potentiality* of the action, but in the ***nature of the movement***"[15] (1967:8). What is significant here is that the walking be progressing "along a line."

The understanding that action is happening "now" is not the same as action being observed "now." Action happening "now" may be expressed by both determinate and indeterminate verbs, but action, observed "now," at a given instant, and proceeding along a line, is expressed almost all of the time only by the determinate.

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[14] See the discussion on singulative/collective in Segment 4.1.6.

[15] Bold and italic attributes mine.

*2.3.0 **Direction***

*2.3.1 **Unidirectionality** as the definitive description of идти-type motion*

The notion of "unidirectionality" is often used as the basis for the meaning of идти-type VOM (Forsyth 1970:320). Isačenko states that:

> {Единственным общим, неизменяемым значением, сохраняющимся за глаголами движения во всех контекстах, является значение однонаправленности (тип идти) и ненаправленности (тип ходить) (as cited in Ward 1965:252)--*'The single common unchanging meaning preserved for verbs of motion in all contexts is the meaning of unidirectionality (идти-type) and non-[uni]directionality (ходить-type)'*}.

Isačenko's definition above implies that all идти-type verbs have one unchanging meaning in common in all situations--unidirectional motion. Amplifying Isačenko's statement, Ward (1965:252) adds that all other meanings describing a determinate verb are derived from the notion that "on all occasions" a determinate verb means "motion in one direction." The key to recognizing the characteristics of the movement that is inherent in идти-type is in understanding the meaning of the words used in the explanation of the motion.

*2.3.2 Concepts suggested by the word "direction": **"goal," displacement**, and **"motion along a line"***

As the list of features in Table 2.1 shows, in the term "unidirectionality" and in the other variations attempting to express the same meaning ("in only one direction," "in a definite direction," "in a specific direction," "unity of direction," etc.), the element "direction" is the common constituent in the various definitions of идти-type VOM. Forsyth states that the definition of the notion of "direction" should be more starkly delineated. He cautions, as others have done, to avoid obscuring distinctions in the meaning of "direction" as it applies to VOM: "'direction' must not be confused with "the stated *goal* of the journey" (1963:148). Addressing the notion "direction," Forsyth separates, what he calls, the "more concrete factor of *destination* or *purpose*" (1970:320), or *goal*, from what one may call, by inference, the "more abstract factor"--*orientation of motion along a line, one instant at a time*." The latter description can be compacted into the words, "*simple motion along a line*." He relegates the term "direction" to the last-mentioned concept. Foote would refer to Forsyth's "stated *goal* of the journey" as "direction in the more normal sense" (Foote 1967:7). The nuances of "direction," (henceforth, **direction**) will be delved into presently.

From this point, the "more abstract factor," "**direction** (as *simple motion along a line*)" will also be referred to with the form "DIRECTION" (in small capitals). The form "DIRECTION" will be used distinctly from the "more concrete factor," "**direction** (as *stated destination, purpose*, or *goal*)." This description will usually be shortened to "**direction** (as *stated goal*)," or simply "*stated goal*." Another nuance of **direction** is "**direction** (as *the result of **displacement** over an elapsed time interval*)" to which the form "direction" (underlined) will refer. Perry's is one definition of the determinate verb which attempts to include these facets of **direction**: "*definite imperfective indicates motion characterized as being directed towards some goal or proceeding in some one direction or partaking of a specific nature*" (1950:627). Figure 2.2 is an illustration including the "more abstract" and "more concrete" notions of **direction**.

The idea of **direction** can also be looked at as having *static* and *non-static* components. **Direction** (as a *stated goal*) is *static*; **direction** (as *simple motion along a line*) and **direction** (as *the result of **displacement** over elapsed time*) are *non-static*. Within a sentence using the determinate verb, there may be a *goal* identified--it never changes, but it is never achieved. DIRECTION and direction are not directly mentioned in a sentence but are definable, constantly changing and always being achieved.

*2.3.3 **Direction** (as destination, purpose, or goal)*

In his article, Forsyth (1963:147) questions what is meant by the phrase "one definite direction" as found in the depiction (meant as a contrast to the **ходить**-type verb) that an **идти**-type verb "*describes a movement which takes place in one definite direction*"[16] (Pulkina, Zakhava-Nekrasova). Forsyth observes that it is inadequate to conclude that because "a definite direction" is mentioned one automatically uses **идти**. As a case in point he presents that one cannot declare that "direction" is any more definite in the sentence "**{Я** иду в школу--*'I am going to school'*}" than in the sentence "{Я хожу в школу--*'I go to school'*}" (1963:147). Forsyth is referring to **direction** (as a *stated destination*) here.

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[16] Italic emphasis mine.

As well as questioning the adequacy of the distinction "*a definite direction*,"[17] Forsyth (1963:147) challenges the adequacy of Semeonoff's identification of a determinate motion feature as action "*performed with a definite* ***purpose***."[18] Forsyth (1963:147) points out that "the purpose implied by any journey or series of journeys expressed by a ходить-type verb can be just as definite as that implied by an идти-type verb, e.g., "{Она шла/ ходила на ферму за молоком--*'She went/was going'* or *'She went/used to go to the farm to get milk'*}." **Direction** (as a *stated goal*) is not exclusive to the definition of the идти-type VOM and is just as important in sentences with ходить-type VOM (Forsyth 1970:320). Thus the question of the interrogative adverb "куда?" can be answered in the sentences with both the идти- and ходить-type VOM.

What, Forsyth says, is lacking in both cases is the mention of "a definite moment of time" (Forsyth 1963:148). He is suggesting the interrelationship of the notions of **time** and **direction**, which will be developed presently. So far, it seems that each attempt discussing the notion of **time** leads to the inclusion of the notion of **direction** and vice versa.

Although the words used in each sentence of the two sets of examples of **direction** (as a *stated destination*) and/ or **direction** (as a *stated purpose*) are the same, i.e., *'to school'* and *'to the farm for milk*,' the thrust of the direction of the motion implied by the verb types is not identical. There is a difference in the complexity of the "direction." With the indeterminate verb, the purpose is not only to get milk but it is to return with it. The action of the subject is in more than one way. Within the determinate verb, the purpose is only to be going to get the milk, the milk is not yet picked up, and certainly not yet brought back. The action is only in one way. The difference here is found in the notion of **direction** (as *the result of* ***displacement*** *over elapsed time*).

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[17] Italic emphasis mine.

[18] In the original, Semeonoff italicizes "purpose." I add the italic emphasis to the phrase and bold "purpose."

As well as the identification of **direction** (as *stated goal*) not being exclusive in sentences with either sub-aspect, its designation does not have to be mentioned in either ходить- or идти-type sentences. A stated goal is not necessary. Such is the case in the following sentence with an indeterminate verb: {Ребёнок уже ходит--*'The child is already walking'*}.

*2.3.4 DIRECTION: the "abstract" concept of **direction**, i.e., "simple motion along a line"*

Webster's New World Dictionary defines the word "direction" as "*the point toward which something faces or the line along which something moves or lies*[19] *["north," "up," "forward" and "left" are directions].*" The excerpt most relevant from the above dictionary definition of "direction" is "*the line along which something moves.*" It attests to the idea of "*movement along a line*" already stated as inherent in the meaning of DIRECTION. The discussion on **direction** (as *movement along a line*) leads us into the realm of mathematical and physical concepts. The dictionary also describes a "line," as a mathematical term this way: "*the path of a moving point, thought of as having length but not breadth, whether straight or curved.*"[20] For our purposes, "*the path of a moving point*" is the path of a moving body. Again, **line** is connected with the representation of movement.

In terms introduced by Foote, "motion along a line" has "context." That is, description of VOM can be envisaged in relation to a line. The "context" of VOM ranges from motion along one line, one time; to motion not along one line, not one time; to motion along "*no line at all*" (Foote 1967:8). The three conditions represent determinate (contextual), indeterminate (contextual) and indeterminate (non-contextual) motion, respectively. The notion of "context" in relation to a "line"is more fully developed in Section *4.1.0.*

As maintained by Foote, determinate motion is "*a simple movement along a line (линейное движение)*"[21] (Foote 1967:7), which he states is one of the three identifying features of идти-type VOM. Foote explains that "*a simple movement along a line*" is what is meant when the phrase "*motion in one direction*" is used in describing идти-type verbs in definitions, of which some have been cited. As pointed out before, it is not the compass point indicating a specific direction that concerns us, but the general idea of DIRECTION as the orientation of motion progressing forward along a line.

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[19] Italics to this point in the dictionary definition are mine.

[20] Italic emphasis mine.

[21] Italic emphasis mine.

The idea of motion is inherent in the meaning of DIRECTION, which is the essence of **unidirectionality**, the feature typical of идти-type verbs. The meaning of "uni-" which modifies "direction" is expressed by synonyms such as "one," "specific," "definite," "given," "unity of" in the definitions listed in Table 2.1. The concept of "unity of direction" is also inherent in the notion DIRECTION. Since in its basic interpretation, the definition of DIRECTION as "*simple* [denoting "single"] *motion along a line*" envelops the idea of "one" or "unity" of direction, the use of the prefix "uni" serves only as emphasis.

According to Foote, in specifying the meaning of "direction," the use of the modifiers "definite" or "precise" in the various definitions of the determinate verb may "suggest too precise a flavor into what may be quite a casual action" (1967:7). He proposes "definable" as a "generally better" description of "direction" as it pertains to идти-type VOM (1967:7). It seems that his use of the adjective "casual" contradicts with the use of the adjectives "definite" or "precise," but I suggest that what he means is that the movement is dynamic and flexible, not rigidly fixed along a "straight line," but flows freely as it progresses along a "line" in its intended direction. Different "line" orientations are discussed below.

Furthermore, I interpret his preference for calling "direction" "definable" to mean that the "direction" expressed by a determinate VOM can be "defined" by reference to a point in time (an instant) and a point in space (location). This is the subject of the next Chapter.

A drawback to the phrase "movement in one direction" is that it may be understood to suppose movement along a line that is *straight* (as distinct from movement *in one direction*). "Movement along a line" can be diagrammatically described by a simple arrow, "->," "(not necessarily straight)" (Foote 1967:7). Forsyth also stresses that

> 'definiteness of direction' in connection with idti-type verbs does not imply motion in a straight line or without changes of direction: the path followed may be extremely tortuous, but at any given moment in one's progress along it one is moving in the same [a definable] direction--ahead, towards the end of the path. (1963:148).

A person may walk in zigzags, but can still progress in a general line that takes him away from some notional starting point towards some notional goal, e.g., {Он зигзагами шёл к дому--*'He zigzagged toward the house'*}. The observer always has a "global" view of the action in mind, but the verb идти, '*to go on foot*' specifically describes the action "at a given moment."

Forsyth points out that, "the concept of unity of direction in determinate verbs covers not only a single linear path in space, but also centrifugal [waves] and centripetal [funnel] motion, in which the single direction is away from or towards a focal point" Forsyth 1970:320). The phrase {от него шли волны--*'sending out ripples* [sic]'} in the following sentence is an example of motion in which there is movement in a "single direction away from . . . a focal point":

> {. . . **Иван Иваны вышел наружу, бросился в воду с шумом и поплыл под дождём, широко взмахивая руками, и от него шли волны**--*'Ivan Ivanych went outside, jumped into the water with a loud splash and swam off in the rain with wide strokes, sending off ripples'*} (Chekhov: Kryzhovnik as cited in Forsyth (1970:320)).

These examples also imply the notion of **direction** (as *the result of* ***displacement*** over elapsed time).

See Figure 2.2 for some possible variations in determinate type "lines of motion." The non-progressive nature of ходить-type motion will be more fully developed and diagrammed later. For examples of indeterminate type "lines of motion" see Figures 4.2 and 4.5. DIRECTION, the "more abstract" feature of **direction**, will be more fully discussed in the next chapter where the definition of motion in VOM will be presented as a concept found in the scientific discipline of kinetic physics.

*2.3.5 **Direction** (as the result of **displacement** over elapsed time)*

Implied in the notion of "simple motion along a line" as it pertains to determinate motion is "the advancement along a line" of an intransitive subject or a transitive object. Such **progressive** *motion*[22] involves the subject or object in a "*change of location*" (Foote 1967:7). This, Foote states, is the second identifying feature of determinate motion. The object's "*change of location*" implies **displacement**, which is the third nuance involving the meaning of **direction.** If an object is **displaced** over an elapsed interval of time, it also has direction relative to a frame of reference.

This is not the case with indeterminate verbs. One of the more extensive uses of indeterminate verbs is "the expression of repeated journeys, frequently implying a shuttle movement between two points" (1970:322). As an example, he presents this sentence: "{Обедать и ночевать Данилов ходил домой--*'Danilov went home every night to eat and sleep'*}" (Panova: Sputniki, as cited in Forsyth (1970:322)). This action shows the absence of **displacement** and thus, the absence of **direction** (as *the result of **displacement** over elapsed time*). The above concept will be discussed in detail in mathematics/ physics terms in Chapter III.

2.3.6 DIRECTION and direction not necessary to be stated

As pointed out above, **direction** (as a *stated goal*) does not necessarily have to be included with either the determinate or indeterminate verb in sentences. Furthermore, **direction** (as *simple motion along a line)* and **direction** (as *the result of **displacement** over elapsed time)* are not specifically described in идти-type phrases:

> The person or thing moving or moved may have no special interest in where the movement will lead. Although, more often than not the action of a determinate verb is motivated by an intention of getting oneself or something somewhere, this is not essential, and, providing the action remains simple (i.e., advancing along a line) it can be quite aimless, or even unconscious. (Foote 1967:7)

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[22] Not to be confused with **progressivity**, which emphasizes **time** rather than **space**.

The reason **direction** (as *the line along which an object moves)* does not have to be specified is that the notion of **unidirectionality** is essentially inherent in the **underlying-lexical** meaning of the determinate verb: идти-type VOM mean "*motion along a line*." Therefore, a literal statement that motion is flowing along a line does not have to be made. Making the same point another way, Ward indicates the **underlying-lexical** meaning of the determinate verb: "what a verb such as идти actually does is to present the action *as observed at a particular moment in its progress*" (Ward 1965:253). The word "actually" in Ward's statement emphasizes that this is the inherent **underlying-lexical** meaning of the determinate verb, i.e., the implication that emanates when the verb is applied. This emphasizes that the gist of the meaning of the verb is expressed by the verb itself--further description does not need to be made.

What, he indicates, is relevant in the following example void of a stated goal is that the motion be progressing along a line. "Direction in the normal sense" (Foote 1967:7) (here Foote means **direction** (as a *stated goal*)) is immaterial "where all the subject is concerned with is the enjoyment gained from participation in an activity under particular conditions" (Foote 1967:7): "{Приятно идти под дождём--*'Its nice to walk in the rain'*}" (Foote 1967:7). "Direction in a normal sense" is irrelevant "where what matters is the rate of progress": {Поезд идёт быстро--*'The train is going fast'*} (Foote 1967:7). What is relevant is that the motion be progressing along a line.

Forsyth asserts that "direction is a dynamic concept defined with reference to the starting point of the motion or its 'aim' at any point in its development" (1963:148). Here, Forsyth is referring to the notions of "*goal,*" "*motion along a line*" and "**displacement**." In other words, from any point in the development of the motion, **direction** (as *the result of displacement*) can be defined with reference to either the beginning or the end of the action and points in between. The "aim" may be "в школу *'to school'*" (meaning aimed at the goal школа), or, for instance, "по улице, направо," or the "aim" may not be expressed at all: {Не идите так быстро--*'Don't walk so fast'*)." DIRECTION and direction, being dynamic concepts, are always changing as the action proceeds because the position of a moving object is always changing. **Direction** (as *the result of displacement over elapsed time*) and

direction (as *motion along a line*) are manifestations of **velocity,** the former of **average velocity** and the latter of **instantaneous velocity**. The difference between the two concepts has to do with the extent of the time interval taken into consideration. See Chapter III.

Direction (as a *stated goal*) may only be "a point of call on a round trip or a series of journeys {**Он ходит в школу** or **Она ходила на ферму за молоком**}" (Forsyth 1963:148), but this is not **direction** (as *simple motion along a line)*, nor **direction** (as *the result of* ***displacement*** *over elapsed time*). **Direction** (as a *stated goal*), the "more concrete" concept, may be found in sentences that contain either sub-aspect, but it is only the determinate that implies DIRECTION or direction. The latter meanings are primary in the determinate verb, being **aspectual**, and **exclusive** and **non-contextual**; the former is secondary, being **non-exclusive, non-aspectual**, and **contextual**. See Segment *1.4.4*.

2.3.7 ***Bearing, direction, and trajectory***

The term "**bearing**," (*the identification of the position of an object relative to a reference frame*) when applied to a moving object, can be considered to have the same meaning as DIRECTION. DIRECTION is the **bearing** of an object as it moves along a line. Direction is also the bearing of an object whose motion is determined by average **displacement**. From a kinetics (the study of motion) POV, **bearing** is a dynamic concept because it describes the changing position of a moving object.

Bearing is a **derived** notion because the **bearing** of a "moving" object cannot be measured directly--the direction of a moving object must be extrapolated from two dimensions: time (an instant) and space (location). The **bearing** of a moving object can be described by a **trajectory**, representing the changing position of an object at each instant or an elapsed time interval involving its movement. The DIRECTION of the **trajectory** of a moving object is identified at a point in time and a point in space. This is further developed in Chapter III.

2.3.8 A manifestation of the abstract notion of ***unidirectionality*** (Ward)

Let us look at two sentences inspired by Ward (1965:254): (S1) {**Тропинка идёт в лес**--'*The pathway goes (leads) to the forest*'} and (S2) {**Человек идёт в лес**--'*The man* *is going (is on his way) to the forest'*). (See Figure 2.3 for a visual representation of the sentences.) The grammatical subject, "тропинка," in (S1) itself represents a "path" that is spatially fixed--it cannot change its course, (b). Physically, the trail can lead only in one direction, towards the declared goal--the forest. If you turn your head and look in the opposite direction, the path also leads from the forest. At any particular moment, "when one looks at it [the trail], it is still there and it is still leading in one direction" (Ward 1965:254). Under these conditions, "идти" rather than "ходить" must be used to describe how the trail goes; the use of "ходить" is wrong. Two things are presented here: (1) a fixed pathway leads toward or from a direction and (2) if viewed at any one moment it is always leading in one direction. The trail ultimately is going one way, and at any moment it has one direction. Consider the footpath a physical manifestation of the abstract notion of **unidirectionality**, "movement in one direction."

Unlike the grammatical subject of S1 (тропинка *'the pathway'*), the grammatical subject of S2 (человек *'the man'*) is free to change direction of the path or line he takes to the forest; however, whatever the shape of the route he takes, it is his intention to take it going into the forest. The man going to the forest could take a route that is similar to the fixed path mentioned above; however, it does not have to be this same path. Whatever the shape of "the" path (e.g., (a), (b), or (c) in Figure 2.3) it is "his" path to the forest and thus "fixed" like that of the тропинка *'pathway.'*

This coincides with the idea that the road toward any goal has only one ultimate direction. When you add the **vectors** of the directional arrows the object in motion ultimately has one general **bearing**--"toward the forest." In this way one can see how the motion of the grammatical subject/ object along its route is **unidirectional**. Even though the path of an object in motion is in the process of being created and its DIRECTION can change as it is being evolved, the goal or the ultimate direction is already preordained. In a sense, it is a fixed entity like the тропинка, *'the pathway'* and the determinate verb must be used.

In the following sentence, there is the use of an идти-type verb in a context where the motion described seems non-unidirectional at first glance:

> {Советский космонавт ехал по Англии сквозь лес приветственно машущих рук (Krokodil 1995, as cited in Ward (1965:257))--*'The Soviet spaceman drove through England through a forest of hands waving welcome'*}. (Ward 1965:257)

Although the grammatical subject has its own will, his tour of England is governed by preordained plans that he must follow. There is the implication that the itinerary is along a fixed path like the pathway to or from the forest and it is being followed. Furthermore, no matter what turns it takes, at the specific moment at which it is viewed, it has only one direction (DIRECTION).

In the following sentence the "alleys" have a fixed spatial orientation like that of the "тропинка *'pathway'*":

> {Охломон Ожогов шёл тёмными переулками к Волге (Pil'nyak; as cited in Ward (1965:255))--*'Okhlomon Ozhogov made his way through dark alleys towards the Volga'*}. (Translated by Ward (1965:255))

Although the alleys may run in various directions, about the alleys one can only say that "они идут," not"они ходят" throughout the town. The underlying fixed path of the route expresses accurately the unidirectional concept of идти-type motion. Ozhogov as well has a pathway that is fixed toward the river, although there may be turns in the path, the path is still going in one DIRECTION with one ultimate destination. Ward comments on the sentence: "The alleys may have run in various directions but the subject was moving at any one time in one direction" (Ward 1965:255).

2.3.9 Idioms and directionality

Depending upon the context of the action, each member of the идти-type/ ходить-type pair, having by definition the same *lexical* meaning but a different *grammatical* meaning, may in theory be interchanged in the same sentence, but there are plenty of sentences where only one will make sense. When both members of a VOM pair cannot logically be used in the same sentence, the restricted application is called "idiomatic." These idiomatic constructions are also often called "metaphoric." The use of "идти *'to go'*" in the sentence "{Тропинка идёт в лес--*'The pathway goes to the forest'*}" can be considered metaphorical: (1) since the path itself in physical reality is not capable of movement; and (2) grammatically, ходить can never make sense in the sentence, except perhaps in a fairy tale.

The book, Грамматика русского языка в иллюстрациях (1985), for example, lists "переносные *'metaphorical'*" uses of both categories of verbs (Pekhlivanova, Lebedeva 1985:239, 246). Only идти-type verbs can be used in expressions like {Годы бегут--*'Time flies'*} or {Дым идёт из трубы--*'Smoke is coming from the chimney'*}. In Essentials of Russian (1964), we find: {Здесь часто идёт дождь--*'It often rains here'*} or {Там никогда не идёт снег--*'It never snows there'*} (Gronicka, Bates-Jakobson 1964:240). These are examples of things that can only run or flow in a fixed direction: time, blood, tears, sweat, rain, etc. Foote (1967:15) calls them "'steady stream' actions." The paths, governed by gravity, that these physical substances follow go in one direction--along a "line." They have only one source and cannot return to it. By nature, the paths of "снег *'snow'*" and "годы *'years'*" from the sentences, "{Снег идёт--*'It is snowing'*}" and "{Годы бегут--*'The years fly'*}," respectively, behave like **trajectories** of projectiles. See Chapter III.

The indeterminate forms are also used idiomatically. The motion of an *'earring,'* "серьга" as used in the sentence, {Он носит одну серьгу, *'He wears one earring'*} does not behave like the **trajectory** of a projectile. It depends upon the wearer for its movement. Only the indeterminate form, носить, of the verb of motion pair can be used in the above sentence. The determinate verb if used in the latter sentence cannot mean "to wear."

The so-called idioms that do not fit the meaning of идти-type and ходить-type VOM are often actually ideal representations of the essential motion defining the determinate or indeterminate motion. For example, the "idioms" above using идти demand paths of **unidirectional** motion while носить, meaning "*to wear something*" can only express **non-unidirectional** movement.

2.4.0 Time and DIRECTION in determinate verbs

Foote, Forsyth, Cioran and others acknowledge the interrelationship of **time** and what is called DIRECTION in this thesis in the definition of determinate motion. As will be shown, an accounting of both notions are required for an adequate definition of идти-type movement.

2.4.1 *Time intertwined with* DIRECTION

Forsyth (1963:148) points out that the description of идти as movement "*in process*," "in fact implies the specification of both time and direction," which, he concludes, is its most satisfactory portrayal. He attests that determinate verbs in the process of action express "*motion taking place at a specific moment and therefore in one direction*"[23] (Forsyth 1970:320). According to him, this definition sets forth the meaning of the determinate verb and covers nearly all its uses (1963:148).

At a particular moment in time "the person's motion is observed or pictured: he actually is on the way at that moment, and is *therefore* going in one direction" (Forsyth 1963:148). Forsyth backs up this conclusion with an analogy from physics: "at a given moment a body cannot possibly be moving in more than one direction" (1963:148). As an example he points out that a Russian meeting another and wanting to find out where he is going must use the идти-type verb rather than the ходить-type in the conversation "{Куда вы идёте? Я иду в библиотеку--'*Where are you going? I am going to the library*'}."

To Ward, although the expression of motion in one direction by идти is basically a spatial notion, he concedes that the concept of direction has a "temporal (but not a tense) basis" (1965:254), making the same point as Forsyth. Ward explains, "if one wants to express the whole of or a stretch of," (1965:254) but not a moment of a complex motion, one does not use the determinate, because the action is no longer being observed at a particular moment. In the sentence "{Весь день они ездили по городу--'*All day they drove around the town*'}" (Ward 1965:254) with no reference to a single point of time in the route, "the action cannot be perceived as preceding in one direction" (1965:254). Thus it is a non-unidirectional, complex action--in this case, a multidirectional action.

The notion of **time** intertwined with DIRECTION in the meaning of идти demands an observer (real or implied) as a factor in the description. From the POV of the observer/

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[23] Italic emphasis mine.

speaker of the sentence, the action is observed as happening "now."

2.4.2 One graphic view of the interdependent relationship of the elements of ***time*** *and* ***direction***

Figure 2.4 is an attempt to visually describe the notions of **time** and **direction** as they apply to the VOM. Diagram (a) envisions as separate entities the elements of time and space that describe the motion of a body:

(1) A time interval in which a verb of motion may be involved is represented by the rectangle described by the short-dashes, (t1). This time duration can be considered an occasion of time, an event.

(2) The corresponding space covered in that time is designated by the rectangle described by the long dashes, (d1).

(3) The progression of an object (✱) in time is indicated by the wavy short-dashed line, (t2).

(4) The same object (✱) in the same event is moving along a path showing a progressive change in location. This is represented by the wavy long-dashed line, (d2).

Diagram (b) envisions the elements of time and space, describing the motion of a body, as an integrated unit:

(5) The designation (td1) pinpoints the location of the moving object at a particular instant within the space covered within the duration of time. The DIRECTION of the motion can be **derived** here, relative to a reference frame. The determinate verb is used to express this limited POV of the action.

(6) The oval encloses a wider view of the action, (td2), encompassing more than an instant of time. The indeterminate verb is required to describe this view.

2.4.3 Another graphic view of the interdependent elements of ***time*** *and* ***direction***

In Figure 2.5 (See Figures 2.6 and 2.7 for a magnified version of Figure 2.5), the intertwining of **time** and **direction** are described:

(1) (A) and (B) are two points in space.

(2) An object (⌘), having started moving from point A, is in motion anywhere along

a path (the curved dashed line) between point (A) and point (B) in the direction of point (B).

(3) The action is progressing within a time span, (t1-t6). The duration of the action is continuous and the total projected time span may be called "an occasion of time." (The object will never reach its destination within the limitations of the meaning of the determinate verb.)

(4) The particular distance travelled, (A) to (✕), corresponds with a particular time span, e.g., (t1-t2), (t1-t3), (t1-t4).

(5) At any point during its duration as it is progressing along the line of movement, the action is observed at a given instant of time, e.g., (t5).

(6) For a particular time interval, e.g., from an origin to a specific instant in time (t5), the object's **displacement** which gives direction can be noted. This is a function of **average velocity**.

(7) The DIRECTION (the orientation of the motion along the line at a given instant, e.g., (t5)) can be noted. This is the function of **instantaneous velocity**, which is **tangent** to the curve.

*2.4.4 Review of **time** and **direction** as presented in Chapter II*

The observer/ speaker, having the privilege of a global view of an event, is aware that the action described by each sub-type involves a time interval. Within this duration, the motion of each verb type exhibits a characteristic pattern. Along with the knowledge of the time span, there is understanding of the motivation for the action. When the observer/speaker focuses on a specific moment within the duration of the action that the verb encompasses, he/she usually applies the determinate verb. Otherwise the indeterminate verb is used.

As the physics analogies in Chapter III will confirm, the elements of **time** and **direction** are interrelated. Situations of temporal nuances associated with determinate verbs follow: (1) the notion of "continuousness" expressing motion "in process" is pervaded with the sense of "nowness"; and (2) there is the viewing of the motion at a specific instant by the speaker which also indicates a sense of "nowness." **Direction** (as *goal*) may be stated, or not, in sentences with either of the sub-aspects. **Direction** (as *motion along a line*) and **direction** (as *the result of **displacement** over an elapsed time interval*) are related to **unidirectionality**, the essential definition of the determinate motion. The latter concepts are expressed in terms of time intervals, which can range from an instant to the whole duration of the motion in one direction. The choice of sub-aspect is subjective, depending on the POV taken by the speaker of the sentence as observer of the action. By relating **unidirectionality** to **direction** (as *movement along a line*) and **direction** (as *the result of **displacement** over an elapsed time interval*) as distinct from **direction** (as *goal*); and considering the notions of "continuous motion" and "instant of time," the distinctive character of determinate motion may be isolated: the determinate verb describes the observation, at a given instant of time, by the speaker of the position (direction) of an object during one "go" of progressive motion along a single line.

Table 2.1: ELEMENTS IN THE DEFINITIONS OF ИДТИ-TYPE VERBS*

These definitions are found in various works on Russian grammar

NOTION OF TIME	**NOTION OF DIRECTION**
TIME RESTRICTED TO A MOMENT: *-a definite point in time,* *-a given moment of time,* *-a particular moment,* *-a single instance and point of time,* *-one occasion only,* *-restricted to a specific moment of time*	UNIDIRECTIONALITY: *-in only one direction,* *-in a specific direction.* *-a single definite direction,* *-unidirectional (***однонаправленность***), along a line,* *-a generally forward direction,* *-a single linear path in space,* *-does not necessarily imply motion in a straight line,* *-involves the subject (or object in the case of transitive verbs) in a change of location,* *-unity of direction*
PROGRESSIVITY: *-motion in progress,* *-motion in the process of taking place,* *-proceeding,* *-motion going on,* *-to be actually on the way,* *-continuous action,* *-continuously,* *-actually taking place,* *-duration,* *-uninterrupted*	ACTION TOWARD A GOAL: *-on a partaking of a specific nature,* *-toward a specific goal,* *-toward some goal,* *-a sense of purpose is implied,* *-makes some forward progress,* *-without stating whether the action is completed or finished,* *-toward an incompleted goal*

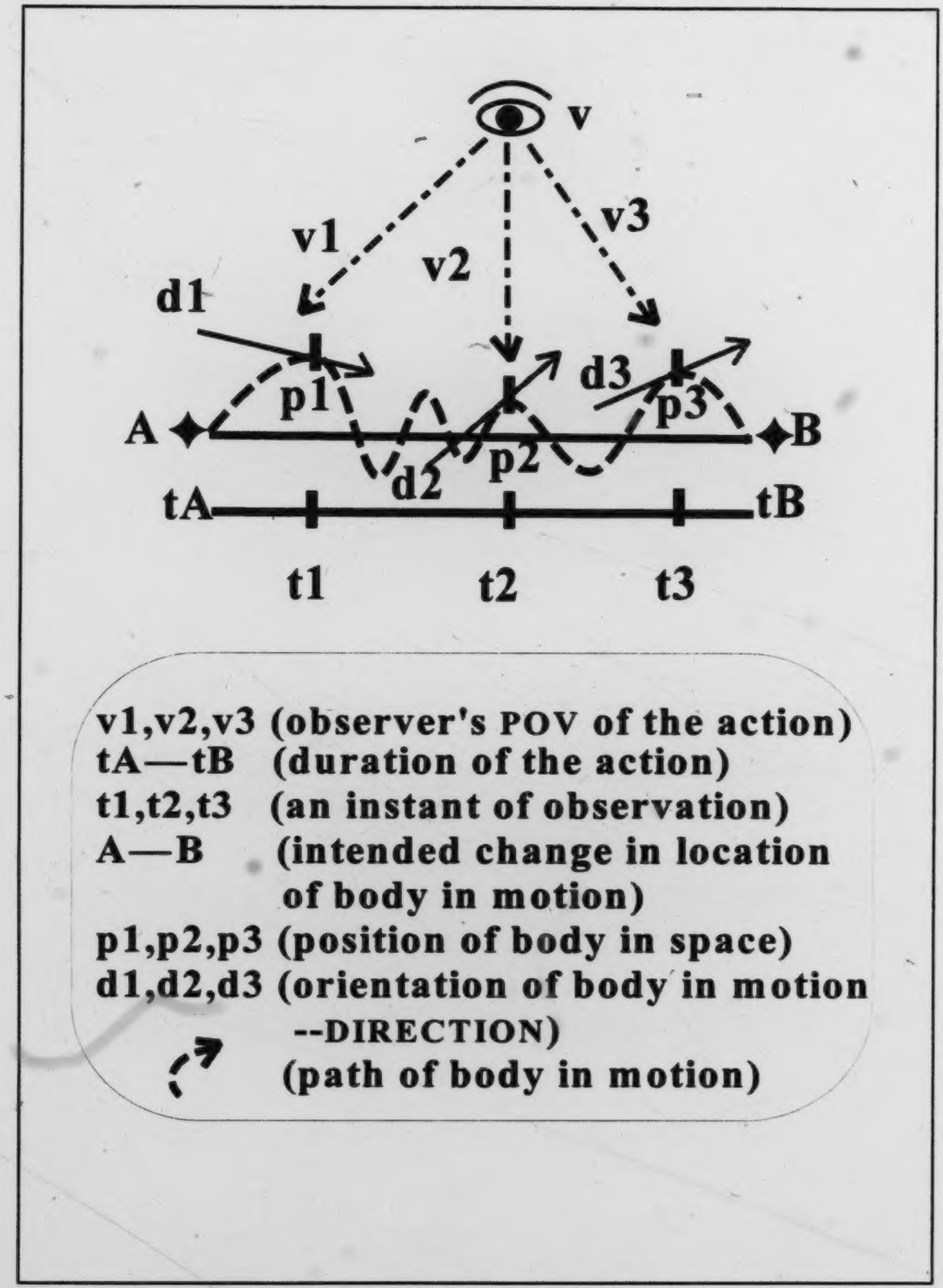
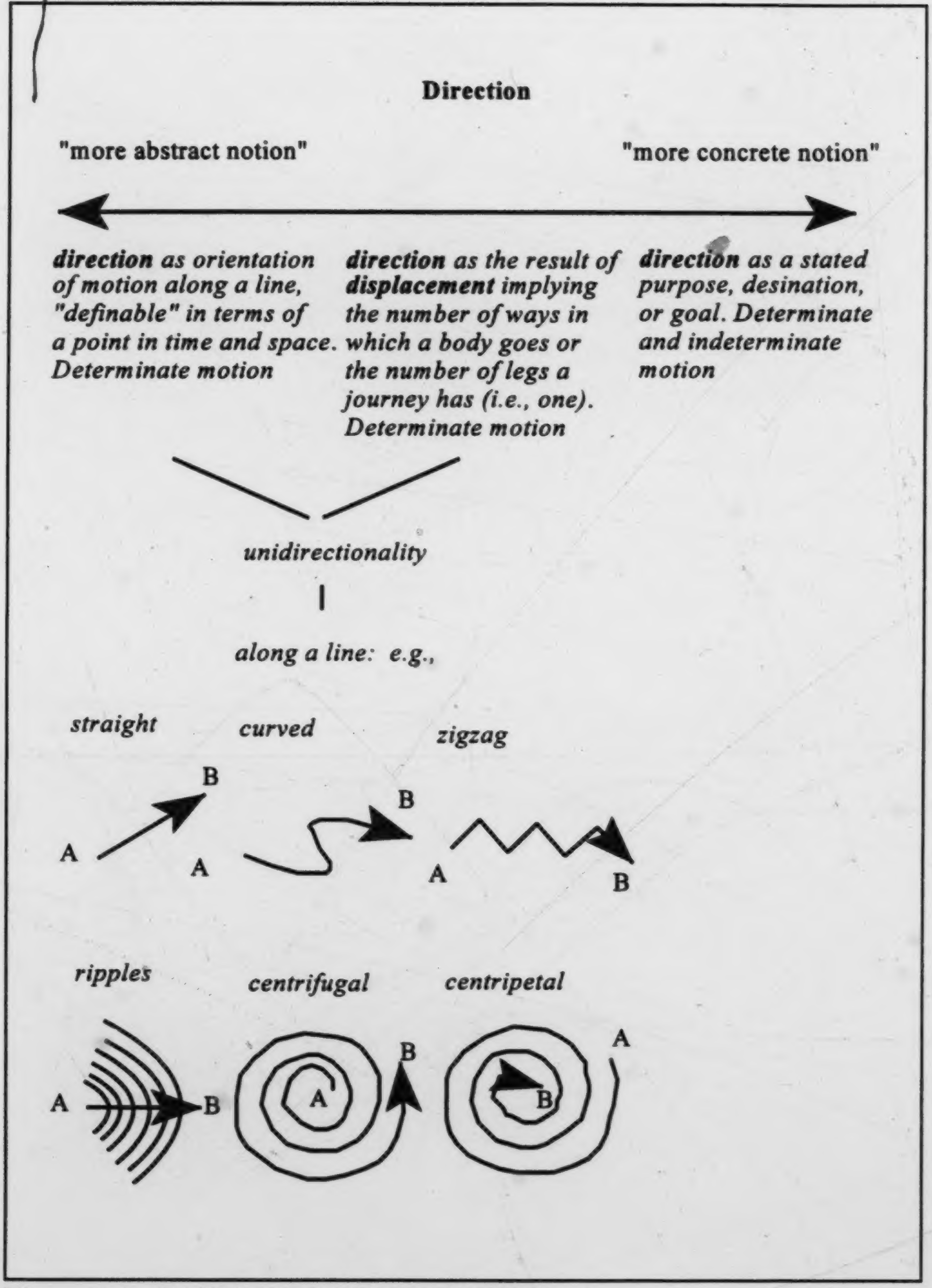

v
v1
v2
v3
d1
d2
d3
p1
p2
p3
A
B
tA
tB
t1
t2
t3
v1,v2,v3 (observer's POV of the action)
tA—tB (duration of the action)
t1,t2,t3 (an instant of observation)
A—B (intended change in location of body in motion)
p1,p2,p3 (position of body in space)
d1,d2,d3 (orientation of body in motion --DIRECTION)
(path of body in motion)

Figure 2.1: TENSE *VS* A MOMENT OF TIME



Direction
"more abstract notion"
"more concrete notion"

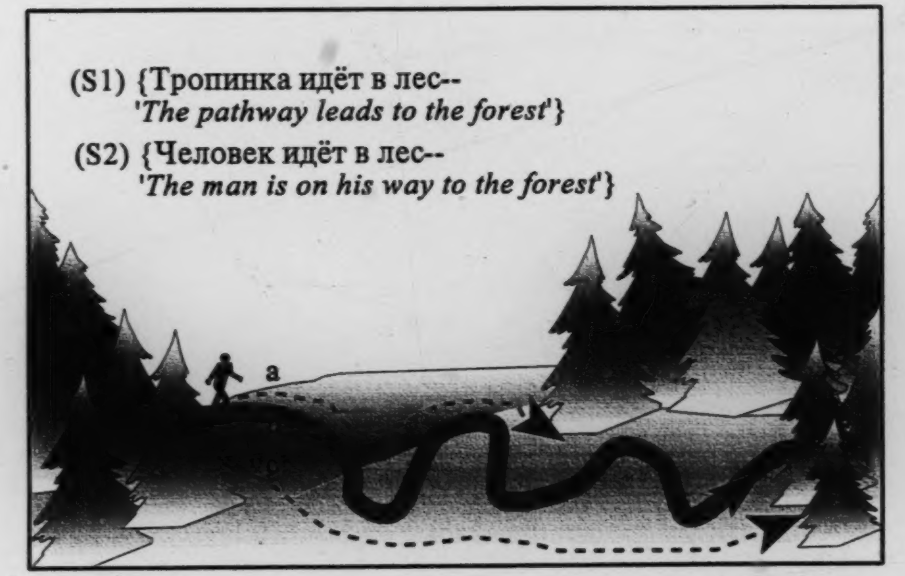
direction *as orientation of motion along a line, "definable" in terms of a point in time and space. Determinate motion*

direction *as the result of* ***displacement*** *implying the number of ways in which a body goes or the number of legs a journey has (i.e., one). Determinate motion*

direction *as a stated purpose, desination, or goal. Determinate and indeterminate motion*

unidirectionality
along a line: e.g.,
straight
curved
zigzag
A
B
A
B
A
B
ripples
centrifugal
centripetal
A
B
A
B
A
B

Figure 2.2: ELEMENTS OF DIRECTION



(S1) {Тропинка идёт в лес--
'The pathway leads to the forest'}

(S2) {Человек идёт в лес--
'The man is on his way to the forest'}

(S1) --Sentence (1)
(S2) --Sentence (2)
(a), (b), (c)--Example paths that may be taken by the man on his way to the forest
(b) --Shape of the fixed path to or from the forest

Figure 2.3: THE PATHWAY LEADING TO THE FOREST*
**Inspired by Ward (1965:254)*

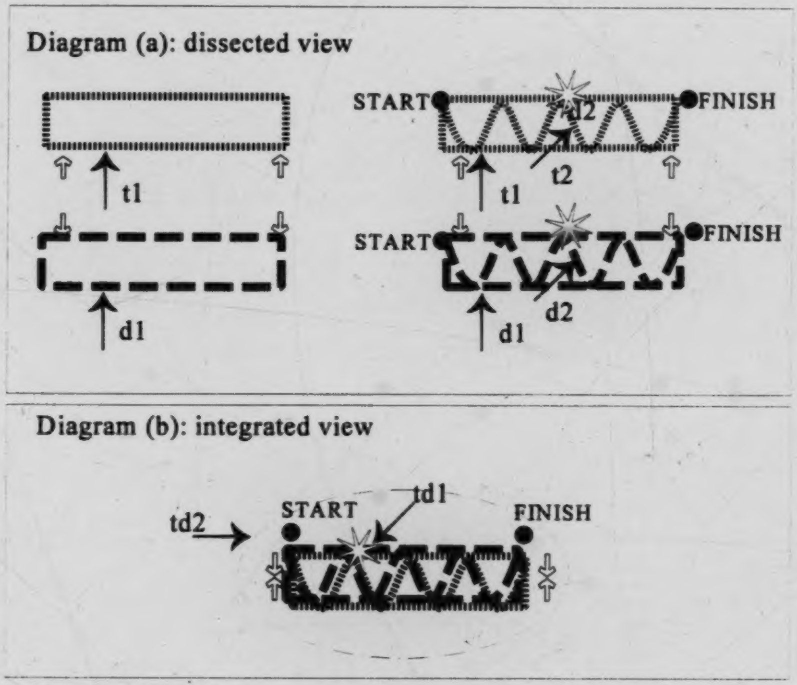


Diagram (a): dissected view
t1
d1
START
FINISH
d2
t2
t1
START
FINISH
d2
d1
Diagram (b): integrated view
td2
START
td1
FINISH

(✲) Body in motion

(t1)Time duration covered by a verb of motion.

(d1) Space covered within the time duration.

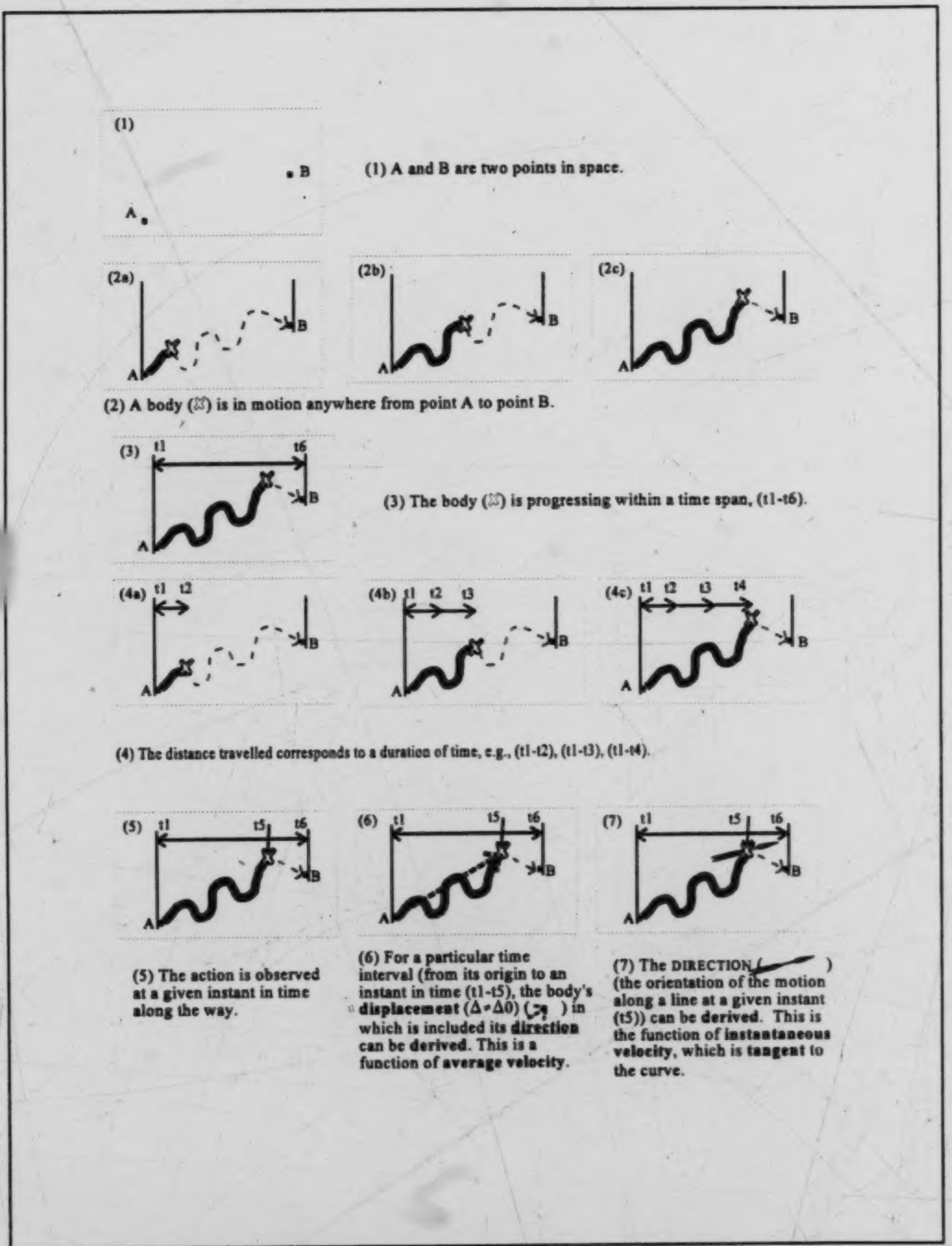
(t2) Action in progress within duration.

(d2) Progressive change in location

(td1) View of the location of the object in motion at a particular point in time. Determinate verb used. Orientation of the motion along a line relative to a reference frame (DIRECTION).

(td2) Wider view of the action. Indeterminate verb used.

Figure 2.4: RELATING THE ELEMENTS OF TIME AND DIRECTION IN VOM



(1) A and B are two points in space.

(2) A body (✕) is in motion anywhere from point A to point B.

(3) The body (✕) is progressing within a time span, (t1-t6).

(4) The distance travelled corresponds to a duration of time, e.g., (t1-t2), (t1-t3), (t1-t4).

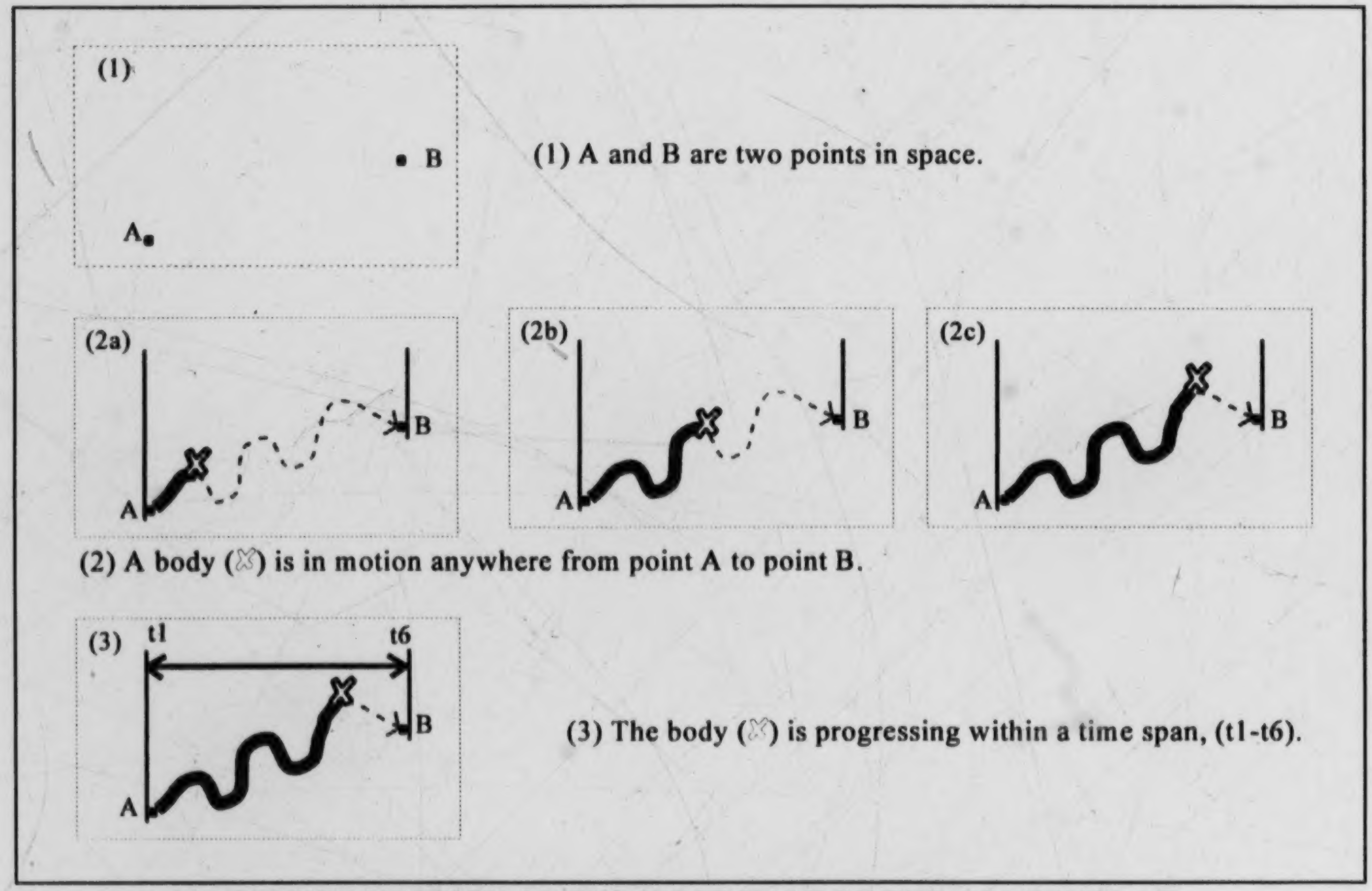
(5) The action is observed at a given instant in time along the way.

(6) For a particular time interval (from its origin to an instant in time (t1-t5), the body's **displacement** (Δ•Δ0) (→) in which is included its **direction** can be **derived**. This is a function of **average velocity**.

(7) The DIRECTION (⟶) (the orientation of the motion along a line at a given instant (t5)) can be **derived**. This is the function of **instantaneous velocity**, which is **tangent** to the curve.

Figure 2.5: ELEMENTS OF DETERMINATE MOTION*

**See Figures 2.6 and 2.7 for a magnified version of the contents of Figure 2.5.*

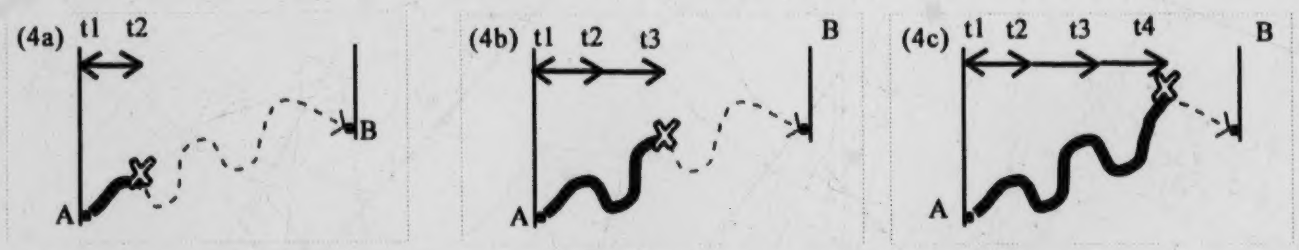

(1)
A
B
(2a)
A
B
(2b)
A
B
(2c)
A
B
(3)
t1
t6
A
B

(1) A and B are two points in space.

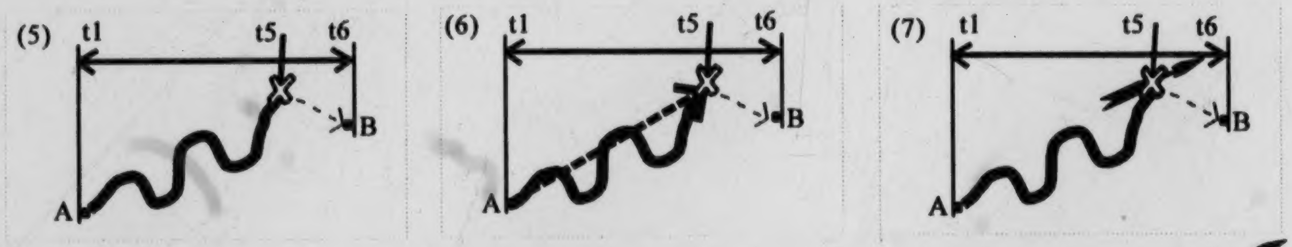
(2) A body (✕) is in motion anywhere from point A to point B.

(3) The body (✕) is progressing within a time span, (t1-t6).

Figure 2.6: MAGNIFIED VERSION OF THE FIRST HALF OF THE CONTENTS OF "Figure 2.5: ELEMENTS OF DETERMINATE MOTION"


(4a)
t1
t2
A
B
(4b)
t1
t2
t3
A
B
(4c)
t1
t2
t3
t4
A
B

(4) The distance travelled corresponds to a duration of time, e.g., (t1-t2), (t1-t3), (t1-t4).


(5)
t1
t5
t6
A
B
(6)
t1
t5
t6
A
B
(7)
t1
t5
t6
A
B

(5) The action is observed at a given instant in time along the way.

(6) For a particular time interval (from its origin to an instant in time (t1-t5), the body's **displacement** (Δ≠Δ0) (↗) in which is included its **direction** can be **derived**. This is a function of **average velocity**.

(7) The DIRECTION (↗) (the orientation of the motion along a line at a given instant (t5)) can be **derived**. This is the function of **instantaneous velocity**, which is **tangent** to the curve.

Figure 2.7: MAGNIFIED VERSION OF THE SECOND HALF OF THE CONTENTS OF "Figure 2.5: ELEMENTS OF DETERMINATE MOTION"

CHAPTER III: REPRESENTATION OF THE SIMPLE VERBS OF MOTION IN TERMS OF ORBIT AND TRAJECTORY

3.1.0 Verbal descriptions, graphic illustrations, mathematical simplifications and physics analogies to describe VOM

3.1.1 Analogies of VOM to notions in physics and mathematics

Insights into the idea of motion as a facet of physical phenomena were first gained as far back as the civilizations of ancient Asia Minor; however, the modern comprehension of motion was not developed until relatively recently, in particular by Galileo Galilei and Isaac Newton in the sixteenth and seventeenth centuries. Learned men were not directing the evolution of language based on a calculated understanding of physical phenomena. This consideration makes it interesting that words, in particular the inherent meaning of the motion of determinative and indeterminate VOM, in the Russian and other languages actually correspond to notions of physics before such ideas were part of the consciousness of the people or scientists. It appears that man is capable of a subconscious understanding of some physical phenomena and then is able to express them through distinctions in the meanings of words.

One could say that ходить-/ идти-type verbs express movement that is found as a natural phenomenon. Linguists like Forsyth, Ward and Pahomov have made some attempts to analyze motion descriptive of идти-/ ходить-type verbs from the perspective of the natural sciences of physics and mathematics.

Pahomov resorts to mathematics and physics to present the most basic concepts of the meaning of VOM, citing the sciences where "certain natural phenomena are best explained not verbally but mathematically" (1977:1). As an example Pahomov mentions the mathematical-physics formula ($F = ma$), i.e., the force with which an object strikes another object is the product of its mass and acceleration (1977:1). He then adds, "[Mathematical] simplifications . . . make our perceptions of reality uniformly meaningful and make reality itself predictable, so that we function in it with maximized efficiency and diminished anxiety" (1977:1). This, of course, is limited only to the extent that we understand them!

3.1.2 Application of graphics to scientific analogies of VOM

Physics and mathematics descriptions of the distinctive feature of determinate verbs--**unidirectional motion**--and conversely, the **non-unidirectional** motion of indeterminate verbs, can be enhanced through the aid of graphics. Ward, but most of all Pahomov, has delved into the visual arena in describing VOM. Influenced by them, I also have attempted to present the unique nature of the meaning of the VOM diagrammatically through mathematics and physics analogies in conjunction with visual representation.

Graphics will also be used in illustrations that are not necessarily scientific analogies. The various approaches applied to distinguish between determinate and indeterminate are ways that may lead to an understanding of the VOM and are not necessarily without inconsistencies, but they may, hopefully, allow insights into these verbs' uniqueness. To move the discussion forward it is necessary to define several scientific terms.

Using graphics, I will make analogies or references to physics and mathematics concepts, such as (1) **scalars/ vectors**, (2) **speed/ velocity**, (3) **distance/ displacement**, (4) **orbit/ trajectory**, (5) **circle/ tangent**, (6) a **derived** notion, and (7) **a particle in motion**, all of which will enhance the description of the movement typical of VOM.

3.2.0 Kinetics and VOM

On a very general level the concepts of physics, mentioned above, may be applied in describing the movement typical of VOM. In physics, kinetics is the description of how objects move; and the fact that VOM are concerned with the movement of the grammatical subject and/ or object indicates that the application of kinetics to the description of VOM makes sense.

Using the kinetics definition of "displacement"[1] as a basis, an analogy to "**displacement,**" as it uniquely applies to VOM, may be evolved. To show why this is necessary I now anticipate one of my main understandings concerning **displacement** and VOM: the ИДТИ-type VOM essentially and inherently expresses **displacement** of the grammatical subject (and in the case of transitive forms, of the subject and object); the ходить-type VOM does not essentially and inherently do so. Because **direction** is intrinsic to **displacement**, the notion of **unidirectionality** is an inherent and intrinsic feature of the determinate VOM, but not necessarily of the indeterminate verb.

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[1] Defined below.

*3.2.1 Introduction to the relevance of **scalar** vs **vector** quantities, i.e., **speed** vs **velocity** and **distance** vs **displacement**, in the description of VOM*

In kinetics, distinction is made between the notions of "speed" and "velocity." "Speed" pertains to ". . . *how far an object travels in a given time interval*"[2] (Giancoli 1984:13). Thus, "*Average speed* of an object is defined as *the distance traveled divided by the time it takes to travel this distance*" (Giancoli 1984:13). One may express the meaning of "average speed" with the following formula: ($s=x/t$), where (s) symbolizes average speed (**speed**), (x) the distance travelled, and (t) the elapsed time.

To quote Giancoli as to the difference between **speed** and **velocity**, the term "velocity," is "used to signify both the *magnitude* (numerical value) of how fast an object is moving and its *direction*. . . . Speed, on the other hand, is a magnitude only" (1984:15). A quantity that deals inherently with both **magnitude** and **direction** is called a **vector**. Therefore, **velocity** and **displacement** are **vector** quantities, **speed** and **distance** are not. The latter are called **scalar** quantities.

A second difference between **speed** and **velocity** is that "the average velocity is defined in terms of 'displacement,' rather than total distance traveled" (Giancoli 1984:15). **Distance**, expressed only as a numerical value, is the actual number of kilometers travelled. "**Displacement** is defined as *the change in position of an object*" (Giancoli 1984:15), and involves **magnitude** and **direction**. So **average velocity**, defined as "*the displacement divided by the elapsed time*" (Giancoli 1984:15) can be expressed by the following formula: $\mathbf{v}=\Delta\mathbf{x}/\Delta t$)[3], where (**v**) is average velocity (**velocity**), ($\Delta\mathbf{x}$) is the "change in position" of the object or its "**displacement**," and (Δt) is the time interval. Note presentation of the distinction between **distance** and **displacement** in Segment *3.2.2* and Figure 3.1.

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[2] Italics mine.

[3] In printed scientific notation, a common way to signify both properties, **magnitude** and **direction**, of the **vector** is boldface type, e.g., (**v**) for **velocity** and ($\Delta\mathbf{x}$) for **displacement**.

During an "elapsed" time interval--from when the object is at a reference frame, to a specific instant in time when it is at some other location--the **displacement** of the object with respect to an origin can be noted from the **average velocity**. The **average velocity** at any "instant" of time is called **instantaneous velocity**, which is what is supposed to be given by a car's speedometer (at least the speed portion). An "instant" of time is "*an indefinitely short time interval*" (Giancoli 1984:16). Thus, "**instantaneous velocity** at any moment is *the average velocity over an indefinitely short time interval*" (Giancoli 1984:16). In other words, **instantaneous velocity** is the limit of the change in **displacement** over the time interval as the time interval goes to zero. DIRECTION of motion can be calculated at any given moment, by taking small time intervals and measuring **displacement** between first and last points. **Instantaneous velocity** of a moving object is tangential to the path and gives DIRECTION at an instant. The **direction** (direction) of **average velocity** is in the direction of the **vector** that describes the change in **displacement**. Only by knowing the location of the object relative to an origin at a particular time can the **average velocity** from the start of the motion to that time be determined.

The two features that Foote affirms as essential to the definition of the determinate verb--"simple movement along a line" of the grammatical subject or object; and motion that involves either in a "*change in location*" ("*progressive* motion")--are related to the physics notions of **instantaneous velocity** and **average velocity**, respectively. At a specific instant in time a body in motion along a line has a specific **location** and DIRECTION in space. **Instantaneous velocity** implies that a body is moving along a line, one instant at a time; and entails the orientation of the motion along the line at a given instant of time (DIRECTION). As stated above, the given "instant of time" is an "*indefinitely short time interval*" (Giancoli 1984:16). On the other hand, **direction** of the **displacement** (direction), expressed by **average velocity,** has to do with the position of the body over an "*elapsed time*" (at a later instant of a time relative to an initial time), not to the fact that it is moving along a line. Direction of the motion, like that of DIRECTION, can be dynamic. Direction, as given by

average velocity, may be considered the overall "intention" expressed by the determinate verb. On the other hand, DIRECTION may be considered the "intention" of the determinate verb expressed at an instant. It is important to note, for this thesis, that a determinate verb implies an **average velocity** that is greater than zero, while an indeterminate verb implies zero **average velocity**.

*3.2.2 Graphic presentation of the distinction between the ideas of **distance** and **displacement***

Figure 3.1 is a graphic example of the difference between the concepts of **distance** and **displacement**. This contrast will aid in the distinction of the features between determinate and indeterminate motion. In Figure 3.1(a), the solid straight line represents the **distance** "as the crow flies," to use a colloquial expression, between two towns, A and B. The dashed curved line represents the **distance** of the actual route that a car is taking to get from one town to the other. The "change in position" or "*straight-line distance*" (Bueche 1979:12) that the car undergoes is its **displacement** and has a different **magnitude** from the actual **distance** travelled. The description of the car's **displacement** also includes a **resultant direction**. **Direction**, as pointed out earlier, is not pertinent to the specification of the scalar quantity of **distance**.

Figure 3.1(b) will more vividly illuminate the difference between the concepts of **distance** and **displacement** and how they relate to VOM. The circular path represents a railway track. The route taken by a train along the dashed curve between C and D equals its actual **distance** travelled (one half the circumference). However, **displacement** (the diameter), is its "change in position."

Moreover, in Figure 3.1(b), if the train is travelling along the track beginning at C and ending at D, then the **distance** covered is equal to the **distance** accumulated by the dashed curve, (the circumference). However, the **displacement** is equal to zero, for there is no ultimate "change in position" of the train. Consequently, it follows that there is no way to calculate or to ascertain the ultimate **direction** since **displacement** equals zero. In addition, if **displacement** equals zero, then the **average velocity** ($v=\Delta x/\Delta t$) over the time interval is also zero. That is to say, if $(\Delta x=0)$, then $(v=0)$; if $(\Delta x=0)$, then no **direction** can be identified.

The meaning of **displacement**, discussed and illustrated above, as a function of **velocity** will later be related to the notions of **orbit** and **trajectory** in order to further distinguish between indeterminate and determinate motion.

*3.2.3 Applying the concepts of **velocity** and **displacement** to VOM*

One may say that the **literal-lexical**[4] meanings of VOM pairs distinguish between the distinctive "rate" or "style" of "going" among individual VOM sets. For example, there is a distinction in the "rate" of movement between the set '*to walk*' (идти/ходить) and the set '*to run*' (бежать/ бегать). Also, as is obvious, there is a difference in the "style" of movement between the set '*to crawl*' (лезть/ лазить) and the set '*to swim*' (плыть/ плавать). The distinct style and relative rate expressed by the **literal-lexical** meaning, as well as the actual **speed** or **velocity** with which the grammatical subject and/ or object of a verb of motion moves along, is irrelevant to our description of the features of movement that distinguish determinate from indeterminate VOM. What is relevant to the crux of our discussion is whether a verb of motion shows **displacement**, and inherently in **displacement**, expresses **direction**. Besides, the notion of **direction,** as it relates to this discussion on VOM, is useful only as description in a general sense (without calculations), e.g., "toward town."

Average velocity is a fundamental notion in the distinction (as will be more fully discussed later in Section *3.5.0* on **trajectory** *vs* **orbit**) between the members of the VOM pairs; however, it is the **displacement** component (Δx) of **velocity** that is the more obvious manifestation of their difference. Hence, concentration on the distinction between идти- and ходить-type VOM in this segment will be mainly in terms of **displacement**.

Generally speaking, **displacement**, in regards to VOM, is considered to be taking place, if the action expressed by a verb of motion continues undauntedly (like the Energizer bunny) along a line, usually toward an intended destination, stated or not. If the grammatical subject and/ or object is viewed at a *given instant* in its progression, and is found to have moved from an initial position, then **displacement** has taken place. This condition meets the classic scientific definition of **displacement** (the resulting change in location relative to a point within a frame of reference).

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[4] See item (b) in Section *1.2.2*.

Furthermore, when the grammatical subject in motion is observed at a *particular instant* in time and it is noted that it has achieved a "change in location" relative to an initial position, then the average **direction**, from that reference frame, in which it has moved may be ascertained. The **direction** in which the subject has moved is revealed, of course, by the evidence of the sentence subject's **displacement**. The parameters mentioned in this and in the preceding paragraph demand the use of the **идти**-type verb, rather than the **ходить**-type, because it is only the determinate verb that must express movement within which **direction** may be ascertained.

When applying the notion of **displacement** to VOM, its meaning requires some refinement. **Displacement**, in the context of VOM, can be considered ***not*** to be taking place in situations similar to those diagrammed in Figure 3.2. If there is an implied potential for the line of movement to tread on one of its own points then **displacement** is annulled. If, involved in the action, there is more than one line of movement and there is the possibility of one treading on another, then **displacement** is cancelled. **Displacement** in VOM implies the "lack of intention" throughout the action to cross a preceding point along its path.

If the subject of a VOM in a sentence, progressing within the course of its path, appears to *cross an initial point* of the action even once, or at least has such potential, then, **displacement** as it is described from the POV of идти-type VOM is nullified. This is because the action can be considered to have canceled itself as do those in Figure 3.2(c) showing dancing in a circle, or Figure 3.2(d), and Figure 3.2(e) showing at least one trip somewhere and back again.

Similarly, if, within the extent of the action in which the verb of motion is involved, *any preceding point is crossed* even once or such is the possibility, then **displacement** which would be typicalized by a determinate verb does not take place. The effective **displacement** of the subject is "infringed upon" creating another initial position within the duration. This happens in the mushroom picking in Figure 3.2(a). In these cases the indeterminate verb is used.

This implies that the action by the subject in ходить-type verbs is cancelable, similar to "the so-called 'annulment' verbs, e.g., открыть--закрыть or приехать--уехать" (Launer 1987:79). As an analogy to the cancelable action of the subject, Launer applies the physics comparison: ". . . the quantity of work performed in raising and then lowering a certain mass through a certain distance is equal to zero" (1987:79).

Even if the subject of a ходить-type verb does not, in actuality, ever tread on the same point twice, the nature of cancelable actions does not prevent it from doing so. However, in the action of идти-types, the possibility of the subject treading on the same point twice is explicitly precluded. See the discussion on why this is so later in this section, and the discussion on the meaning of **trajectory** in Segment 3.5.3.3. Furthermore, the subject of the ходить-type verb may, or may not, find itself in a new location--a ходить-type verb neither requires nor excludes this possibility; however, subject relocation is a necessary outcome for идти-type verbs. That **displacement** of the subject is mandatory in determinate verbs is a function of the distinction between the determinate and indeterminate forms. The conclusions in this paragraph are paraphrased and adapted from Launer's discussion (1987:79) on prefixed VOM, although this thesis has limited its ken to simple VOM.

If the possibility of retracing a point exists, the determinate verb cannot be used. The possibility of retracing a point exists because the window of viewing time is more than one instant. The action of the mushroom picking is viewed as complex, i.e., many simple actions make up the total duration that can intersect within the total duration. If there is ***no*** single line of action, e.g., if there are individual paths crisscrossing, like in a scurrying crowd of people represented in Figure 3.2(b), then, for VOM, **displacement** is invalidated. The indeterminate verb involves a broader view. Because all the action cannot be observed *within a specific instant in time* the possibility of retracing a position exists. See segment *3.2.5*. The determinate verb cannot be used; the indeterminate is appropriate.

Moreover, in cases similar to the above where the view of the action indicates that there is no effective **displacement**, then no singleness of **direction** can be identified as being taken by the subject of the verb of motion. Under these conditions the determinate cannot be used as the predicate; instead, the indeterminate is applied. The graphic renditions in Figure 3.2 of the action of the subject of example sentences show that the indeterminate verbs they contain express no resultant **displacement**, and thus no **velocity** nor identifiable **direction**.

*3.2.4 **Displacement** relative to VOM as a "fuzzy" notion*

Many of the formulations made in this thesis are phrased very precisely; but it should be kept in mind that, because we are dealing with language and because of the great importance of the speaker's POV, many of the notions are, in fact, better considered as "fuzzy." Thus, **orbit** does not necessarily have to involve zero **displacement**, e.g., the sentence "{Он ходил в кино--*'He was to the cinema and came back'*}" may involve a return to *approximately* the same original location. It may be better to say that **orbit** involves motion which tends to zero **displacement**. Another example, "{Она ездила в Москву--*'She was in Moscow and came back'*}," could entail a journey which began in Edmonton and ended in Los Angeles. If the speaker's POV allows for North America to be the starting and ending point, then an **orbital** VOM is used.

Furthermore, a determinate verb may be used even if the actor retraces her steps en route: a person may say, "{Я еду в кино--*'I am on the way to the cinema'*}," even through she knows she will cross her own path once during her walk, in order, e.g., to mail a letter. If her POV emphasizes the walk to the cinema as "one go," and any minor detour en route as being beside the point, then a **trajectory** is still involved. See section *3.5.0*. And, thus, the sentence "{Мы ехали в Москву два часа --meaning *'It took us two hours to get to Moscow'*}" shows the use of a determinate verb, even though the end of the journey is taken into consideration (as it must, if the time for the whole journey is being estimated). In this case, the traveller does "get there," but this fact is ignored and the **trajectory** motion is focussed upon.

*3.2.5 Launer: **Localization** vs **Directionality***

Why is it understood that the subject of a determinate verb "never treads on the same spot twice" (Launer 1987:79)? Launer distinguishes between **directionality** ([+/-DIRECTIONALITY] or [+/-DIR]) and **localization** (**+/-**LOCALIZATION or [+/- LOC]). Both are "marked" features of the determinate verb.

Launer (1987:77) refers to the Schupbach's (1979) distinction of "displacement" as "*whereby the subject and/or object is moved as a result of the action.*"[5] In Launer's terms, subject **displacement** means "**directionality**" or [+DIR]. When Launer uses the feature [+DIR] to describe a VOM, he means that the subject is **displaced**, while the object may or may not be **displaced**. This describes the action of the determinate verb, transitive or intransitive. When Launer describes a verb of motion with the feature [-DIR] he means that the subject is not **displaced**, but the object may or may not be **displaced**. This describes the indeterminate verb, transitive or intransitive. Such is the characteristic distinction between simple determinate and simple indeterminate VOM.

"**Localization**" ([+/-LOC]) has to do with *an object being observed at a specific instant of time*. One can say **localization** means "*because observed at a specific moment in time.*" Since **localization** is dependent on **a specific instant of time**, there cannot be another moment in time that the object can be identified as having the same **localization**. The subject cannot have the same **localization** because the **instant of time** is a different one. Because the subject is viewed at a specific point at a specific instant of time, it cannot be there again at the same identical moment in time. Therefore, the position cannot be identified by the same **localization**. That is why the subject of a determinate verb "never treads on the same spot twice" (Launer 1987:79).

Directionality ([+/-DIR]) has to do with subject **displacement**; **localization** ([+/-LOC] has to do with subject **displacement** viewed **at a specific moment of time**. If an object has a particular **instantaneous velocity** it has a particular **direction** dependent on a particular **time** and **position** and therefore it has **localization**. Since [+DIR] means subject

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[5] Italic emphasis mine.

displacement and [+LOC] means subject **displacement** viewed **at a specific moment in time**, [+DIR] (**directionality**) is dependent on [+LOC] (**localization**). As Launer (1987:77) states, "[+DIRECTIONALITY] is entailed by [+LOCALIZATION]."

A subject moves whether the action is viewed as determinate or indeterminate, but when the determinate verb is used the subject's **displacement** is considered to be observed at a specific moment. The subject of the determinate verb has **localization** and **displacement**, while the indeterminate subject has neither.

Why is retracing of location neither required nor precluded by indeterminate verbs? Because, when the indeterminate verb is applied, a specific instant in time in the action is not considered to be observed. The subject may retrace a position but it cannot hit the same **localization** because a **specific instant in time** cannot be involved more than once.

*3.2.6 The difference in "**displacement**" as enveloped in intransitive and transitive VOM*

There is a significant difference between the action of an intransitive VOM pair like **ехать/ ездить** and a transitive VOM pair like **нести/ носить**. The activity that the **нести/ носить** VOM pair describes is more "complex," than that of the **ехать/ ездить** VOM pair because the former involves a subject and an object, while the latter only a subject.

Furthermore, in **нести** both the subject and object are "**displaced.**" On the other hand, in **носить** the subject moves back and forth (there is no requirement of resultant **displacement**) but the objects may be "**displaced**," when more than one trip is implied. Usually there is more than one object. According to Wertz (1979:56) it is important to note that the multi-directional verbs can mean that ". . . the action is carried out in several trips; the carrying is in one direction, but the motion is in more than one direction" (as cited in Launer 1987:78). An example sentence is "{**Он носит книги в библиотеку**--'*He carries books to the library*'}."

In the case when the object transported is "attached" to the subject throughout the performance of the action of the unprefixed indeterminate verb there is only a single complement, that is, one "object" but it is not delivered (**displaced**). In the sentence, "{**Весь день она носила ребёнка**--'*She carried the baby around all day*'}" the baby is carried around all day by its mother. The sentence "{Он носит галстук--*'He wears a tie'*}" has the idiomatic meaning that the necktie worn by the subject is not taken off the wearer or **displaced**.

*3.3.0 Unidirectional movement as a **derived** notion*

To Isačenko and Ward, **unidirectional** movement is "the" distinctive feature of determinate VOM (See Chapter II). In Ward's discussion concerning the functions of the imperfective aspect, to which the determinate VOM belong, he refers to **unidirectional** movement as "a derived notion."

What does Ward mean by "a *derived* notion" and how does Ward make this idea relevant to his understanding of unidirectional motion? The application of the term **derived** in his or this work is not related, for instance, to the derivation of verbs in the sense as would be common in a linguistic thesis.

3.3.1 Derived functions of the imperfective aspect

Ward states that the perfective expresses "delimited action," i.e., the perfective presents the action as having not merely a definite end but a definite beginning and a definite end: the action is presented as a delimited unit" (Ward 1965:230). It follows that the imperfective does not express "delimited action" (1965:232), which becomes its basic function. Expression of duration is also one of the several functions of the imperfective, and like all the functions of the imperfective--other than the function of not expressing delimited action--it is a **derived** function. According to Ward, a **derived** function of the imperfective is "one which follows logically from the fact that the imperfective does not present the action as delimited" (1965:232). To paraphrase his words in a general way, a "*derived* notion" is a notion that follows logically from a fundamental meaning (1965:232). See Segment *3.3.4* which discusses the term **derived** in a physics context, where its meaning is similar to Ward's.

*3.3.2 Ward: evolution of **unidirectionality** from a purely **spatial** concept to one that includes **time***

In his book, Ward mentions that when he started contemplating the meaning of

unidirectionality in determinative verbs he looked at the notion only "as a purely spatial concept" (1965:253). I suspect that what he means by "movement in one direction" (1965:254) as "a purely spatial concept" is an understanding of the meaning of "direction" in **unidirectionality** without reference to the element of **time**. However, Ward acknowledges that this fundamentally spatial concept of movement in one direction in determinative verbs does have "a temporal (not a tense) basis" (1965:254). He admits that only after correspondence with Forsyth (Ward 1965:253) did he begin to consider **unidirectionality** in terms of **space** and **time** which is what I believe he means when he now refers to it as "a *derived* notion."[6] By this, I believe he specifically means **direction** as "DIRECTION," the distinction presented in Segment *2.4.3*.

To indicate the "temporal basis" of идти he presents its use in the following context. In the sentence, "{Он ходит по комнате, *'He walks/ is walking up and down the room'*}," Ward points out that "ходить" shows "complex movement" which "can be stopped, as it were," that is, this motion "can be observed at *a particular moment*[7] and one can say (Он ходит по комнате: (сейчас) он идёт к окну, (сейчас) он идёт к двери . . . *(now) he is going towards the window, (now) he is going towards the door*" (Ward 1965:254). "If one wants to express the whole of or a stretch of a complex motion then one cannot say Он идёт . . . for one is no longer observing that action at *a particular moment*"[8] (Ward 1965:254). The indeterminate verb of motion broadens the temporal perspective.

3.3.3 Derived functions of the VOM

When Ward states that "the notion of unidirectional movement . . . is a *derived* notion" (1965:253), he explains *derived* as "what a verb such as идти actually does" (1965:253). He says that идти presents "the action *as observed at a particular moment in its progress*" (1965:253). His explanation in the above statement can be presented as an equation: **идти** = '*to go*' as a notion of unidirectional motion = a *derived* notion = motion in progress+motion observed at a particular moment.

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[6] See discussion below.

[7] Italics mine.

[8] Italics mine.

If an object is observed progressing in motion at a particular time, then at that particular moment the object has a specific direction. The fact that the object in motion can be defined by a **direction** logically follows from the fundamental situation of an object in motion being observed at a "particular" moment. So, in Ward's words, **идёт** means "proceeding in one particular direction because observed at a particular moment" (1965:253). The meaning of **идти** is a **derived** notion because its feature of **directionality** follows from its fundamental meaning--motion in progress that is observed at a specific moment. That is, the definition of **идти** or **unidirectionality** as "a *derived* notion" incorporates features of motion that can only be expressed in terms of the other: **direction, time,** and **location** in space.

3.3.4 Interpretation of the notion "derived" in Physics

In physics terminology, "derived" quantities are physical quantities that are defined in terms of "base" quantities. "Length," "mass," and "time" are three base quantities. For example, the physical quantity **speed**, that is, the distance traveled divided by the time its takes to travel that distance, is a **derived** quantity because it is defined in terms of the base quantities of Length (Distance) and Time. So, one can say a quantity is **derived** if it depends on fundamental quantities for its definition. Thus, it can be said the DIRECTION of a body in motion is a **derived** notion because it cannot be defined without reference to the fundamental quantities of the dimension of time and length (location in space or displacement). This is similar to the sense in which Ward means that **идти** is a **derived** notion.

So that the DIRECTION of a moving object (i.e., of the subject/object of a VOM) be revealed, it must be **derived** (extrapolated) by referring to a point in **time** and to a point (location) in **space**. DIRECTION of an object in motion depends upon **location** and the noting of **time**, which requires an Observer, or at least, a hypothetical one, as far as VOM are concerned. The meaning of **unidirectional** movement as applied to determinate VOM coincides with the physics concept, "an object at any point and time moving along a path has location (displacement) and direction (instantaneous velocity)," which expresses a **derived** notion.

3.3.5 A derived notion expressed as a mathematical depiction

A way to present the idea of **unidirectional** motion--one that will illustrate it as a **derived** notion in the sense Ward means it--is through a mathematical diagram. See Figure 3.3(a) which is similar to the diagram representing "*derived* notion" (1965:253) in his book. A man takes a zigzagging path (r). At any point in the time-continuum when his action is observed, ((t1), (t2), etc.), he will appear to be going in one direction, "although over a section of, or all of the route (r), his direction in fact changes" (Ward 1965:253). At any given moment in time without specifying or even implying a goal we can say about him: "{Он идёт--*'He is walking'*}" (Ward 1965:253). Ward could have added directional arrows at each moment of time (observation) in his diagram to show DIRECTION as was done in Figure 3.3(b).

3.4.0 Pahomov: VOM presented as mathematics/ physics analogies

It is Pahomov in "Bull, Boar, and Orbit/ Trajectory: on Presenting the Verbs of Motion" who takes this step and beyond, by resorting to a somewhat more elaborate mathematical schematic and by turning more to other notions in physics.

3.4.1 Pahomov's bull, and the timeless general vs the time specific

In order to illustrate the difference between **идти** and **ходить**, one of the stories Pahomov relates involves the reader of his paper, a kolkhoznik, a bull, and "an enormous circular pathway." The reader of this thesis may see a schematic of the bull story scenario in Figure 3.4(1) (an accurate facsimile of "Diagram A" from Pahomov (1977:2)). The dashed-line circle represents the "enormous circular pathway" which is the bull's potential path, while the points "a" and "b" represent two of the spots at which the bull can be observed at the time when he is actually walking along the pathway. The meaning of the diagram in Figure 3.4(1) is interpreted more fully below.

The story continues: pointing at the "enormous circular pathway," a kolkhoznik explains to the reader: "{По этой тропинке ходит бык (Pahomov 1977:2)--['*A bull walks along this pathway*']}." Pahomov characterizes the kolkhoznik's revelation as "a general descriptive statement that exists outside of time" (1977:2). This is because at that specific moment the bull is not visible, and as far as we know he may be enclosed in a barn, sleeping.

The following day, the reader observes the bull walking along the circular pathway and says to himself: "{Вот идёт этот самый бык-- '*There goes that very bull*'}."[9] Pahomov concludes that when the reader uses the verb идти in contrast to the kolkhoznik's use of ходить, he unconsciously makes "a distinction between the specific and the timeless general, more rigorously, between *trajectory and orbit*"[10] (1977:2).

In a succeeding article expanding his observations concerning "orbit" and "trajectory," Pahomov ascertains that "the orbit, the bull's complete route, is nothing more than a time-independent description. The trajectory, however, specifies *location* and *direction* at a particular *instant* of time. . . . " (1979:16). More on the significance of this citation below. Note that this description of **trajectory** is identical to the assumption by Ward that **unidirectional** motion as "motion along a line" is a **derived** notion.

3.4.2 Pahomov's boar

The second story that Pahomov (1977:3) uses as an illustration of the difference between идти and ходить is about two hunters, stalking a wild boar with spears. They hear, but cannot see, the animal moving in the dense undergrowth. As they wait, the hunters whisper to each other, "Ходит . . . ходит . . . ходит." At the instant that their prey comes out of the brush at them, they yell, "идёт!" and pitch their spears at the wild boar. Pahomov points out that the route taken by the animal is akin to the time-independent **orbit** along where the action of the animal is described by the verb "ходит." "Идёт!" on the other hand, is reference to the time-specific **trajectory,** which "specifies *location* and *direction* at a particular *instant* of time." Figure 3.4(2) below is an accurate facsimile of Pahomov's "Diagram C" (1977:3) sketching the story. The dotted curved line symbolizes that, unseen behind the bushes, the animal going about its business, meanders along a path that is a time-independent **orbit.**

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[9] Usually the English compound continuous form '*is going*' and the English simple form '*goes*' are used to translate the Russian идти-/ ходить-type VOM, respectively. In the above example it sounds better to translate "идёт" by "*goes*." This is the problem suggested earlier of relating the two English tenses to the determinate and indeterminate type VOM. This example would be simpler if the next day the reader sees the bull walking around the pathway and says: "{Сейчас бык идёт по тропинке-- '*Now the bull is walking around the pathway*'}." It is complicated by the use of "Вот" which has a sense of location and time, of the here and now! The word "Вот" is translated into English by "there" which sounds better with "*goes*" than "*is going*."

[10] I have inverted Pahomov's order of the phrases in this quotation.

*3.4.3 Presenting determinate and indeterminate verb types in tandem as notions of mathematics and physics: **orbit** and **trajectory***

Pahomov states that the denotation of the **идти**-type verb, described in terms of **trajectory**, "is most meaningful when viewed in opposition to the 'ходить-' type" (1977:3), which is represented by **orbit** in his diagrams. Therefore, the two types are best presented in tandem and shown graphically as part of mathematical diagrams in terms of a physics analogy. The schematic that serves as the mathematical diagram presenting the two verbs types in tandem was presented above in Figure 3.4(1).

Looking at Figure 3.4(1) again, we see that Pahomov has drawn a **circle** and identified two **tangents**[11] on it. A **circle** is the mathematical requirement to describe an **orbit**, shown by the broken line; and a **tangent**, the mathematical requirement for the description of **trajectory**, indicated by the arrow and located at the dot. As we know from physics a particle (a point, a person, the subject of a sentence) moving along a line (orbit, curve, path) has DIRECTION and location at any particular instant of time. This natural phenomenon, as Pahomov indicates, "may be represented schematically by drawing a tangent to that point on the line" (1977:2). In his "Diagram A" (1977:2), represented by Figure 3.4(1) in this paper, he notes that "the arrows are tangent to the circle at points 'a' and 'b'." He continues by pointing out that "to express this same schematic situation verbally in Russian, the verb 'идти' must be used" (Pahomov 1977:2).

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[11] **Tangent**–a line touching and not intersecting a curve or curved surface at one and only one point.

*3.4.4 Pahomov's **orbit***

Pahomov describes **orbit**, as "merely a time-independent description"--a description that "exists outside of time." This is what he calls the path that can be potentially taken by the bull now enclosed in the barn. Because the bull is somewhere other than walking along the pathway, he cannot be observed at a "specific" moment. Because of this, his action of walking along the path is potential rather than actual. The event does not exist in "real time" where there is an observer, at least a hypothetical observer, to view at a specific moment the object in motion at a specific location in space. If the intention of the verb is to indicate that the action is to be observed (at least hypothetically) at a "specific" moment, then **идти** must be used. If such is not the case then **идти** cannot be used. **Ходить** is used in all other circumstances. Even if there were no bushes and the boar could be observed at a specific moment, the hunters are not concerned with viewing at a "specific" moment the meandering actions of the animal. They are only interested in the moment that the boar can be available for attack.

Pahomov points out that the **orbit** can represent a clearly defined route like the circular pathway that the bull takes or the route may be "so complex as to withstand conceptualization" (1977:3) similar to the convoluted pathway of the boar. Although the curved, non-backtracking path in Figure 3.4(2) is meant to describe a meandering animal, I suggest the shape describing the animal's travel be similar to the one in Figure 3.4(3) since an unidirectional path can also be curved. Although the path of an unidirectional movement does not necessarily have to be a straight line, it would be more clear if the boar's path were to back-track on its self to indicate ***not*** a unidirectional movement, i.e., a movement not requiring to be described by the **идти**-type verb.

*3.4.5 Pahomov's **trajectory***

According to Pahomov, at a "specific moment in time," there is also a specific location and definite direction for an object traveling along the path. He confirms (1977:3), that the **trajectory** specifies three factors in the motion of the subject of an **идти**-type verb: (1) instant of time, (2) localization, and (3) direction. In the sentence, "{**Вот идёт бык**--

'There goes the bull'}," "Вот" expresses an "instant of time" as well as "localization," a point in time and space, at which the bull, the subject of the sentence, is; and "direction," indicates relative **bearing**. "Direction," as used by Pahomov is akin to DIRECTION as used by me in this thesis.

In Figure 3.4(1), **trajectory** is represented by the dot and the arrow. The dot identifies **location** and the arrow DIRECTION of a particle (in this instance the bull travelling in the path) that is observed "at a particular instant of time." At another specific instant of **time** an object traveling in the path will have another specific **location** and DIRECTION with another observer at another point saying, "{Вот идёт бык, который ходит по этому кругу--*'There goes*[12] *the bull, which walks around that circle'*}." As Pahomov indicates, the diagram shows the distinction between ходить-type and идти-type verbs as the timeless general and the specific, that is, as between **orbit** and **trajectory**.

3.4.6 The present tense, and ходить-type and идти-type VOM

Pahomov states that to declare that the ходить-type embraces a present tense is unclear because, in the ideas expressed in his paper (1979:17), the verb type has been applied to portray "atemporal" or "time-independent events," represented by **orbit**:

> For our purposes we must look at the present tense as an infinitely short moment in time and compress the conventional, durative present tense down to a time span of zero." Then, in our scheme, "{Бык ходит по тропинке--[*'The bull walks along the pathway'*]}," cannot exist in the present tense, for it would be impossible for an observer to see that action in a *single moment* of time. What the observer sees at a particular instant can only be described as "{Бык идёт по тропинке--[*'The bull is walking along the pathway'*]}." (1979:17)

According to Pahomov's vision, if the "orbit verbs (бык ходит)" are called "atemporal" or "time-independent" verbs, then the "trajectory verbs" may be called "verbs of instantaneous action where time (duration) → 0 (zero), for they speak of instants in a chain, a series of infinitely brief acts. . . " (Pahomov 1979:17).

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[12] *Cf* footnote 9.

*3.4.7 Derived notion and **trajectory***

As we see, by bringing in the notion of **trajectory**, Pahomov shines a wider light on the concept of "*derived* notion" to which Ward refers. Pahomov explains the meaning of what I refer to as DIRECTION and the relevance of time in the definition of unidirectional motion that is earlier shown in connection with Ward. Furthermore, Pahomov incorporates the three factors of **derived** motion, (1) instant of time, (2) localization and (3) direction, that we will see are represented by the notion of **trajectory**. By showing that the meaning **идти** is based on a "*derived* notion," Pahomov explains what determinate motion is, and in the process, describes what indeterminate motion is not.

*3.5.0 Clarifying the distinction between **orbit** and **trajectory***

*3.5.1 Terms used to distinguish between **orbit** and **trajectory***

I will elaborate on the distinction, introduced by Pahomov, between **orbit** and **trajectory**. In Pahomov, as well as in this paper, the difference in meaning between **ходить**- and **идти**-type VOM is set forth as the distinction between **orbit** and **trajectory** in a physics sense or between **circle** and **tangent** in a mathematics sense, but not in the strictest scientific definition, nor in specific calculations. What are understood to be the essential features that distinguish **orbit** from **trajectory**, and by analogy **ходить** from **идти**?

Terms appearing to be synonymous such as *path*, *pathway*, *orbit*, *trajectory*, *course*, *route*, *curve*, and *line* are often used interchangeably to describe both **trajectory** and **orbit**. It is, of course, difficult to understand contrasting concepts when identical words are used. The term "trajectory," applied in a general way, can describe both the path similar to that traced by a planet around the sun as well as the path similar to that traced by a bullet shot from a gun. The first type of path is called a "closed" trajectory and the second an "open" trajectory. A "'closed' trajectory" can define what is usually called an **orbit** such as the path of a planet, while the term "trajectory" is reserved for what is usually described as an "'open' trajectory."

To make it clearer for the reader before attempting to more fully develop the distinction between **trajectory** and **orbit** it will be stated in advance that the difference between the curve of a **trajectory** and the curve of an **orbit**, as it will be applied to VOM, can be represented by two distinctive configurations: (1) a **trajectory** represents the path of a projectile in terms of ballistics--like the path followed by a bullet shot from a gun or the path a "spent" rocket takes (See Figure 3.5a1); and (2) an **orbit** is like the path an electron rotating around the nucleus of an atom follows or like the path a satellite takes as it circles beyond the earth's atmosphere. See Figure 3.5a2. In other words, for our discussion, the essential distinction is that the **trajectory** is an open-ended path and **orbit** is not.

3.5.2 The Van Nostrand definition of ***trajectory***

After searching in many scientific dictionaries, I was finally able to find a definition of **trajectory** that could serve as a satisfactory guide to enhance Pahomov's presentation of the difference in motion between **идти**-type and **ходить**-type verbs, when he juxtaposes a **circle** and **tangent** to represent the notions of **orbit** and **trajectory**. The most suitable definition of **trajectory** comes from Van Nostrand's Scientific Encyclopedia (1989):

> TRAJECTORY (of a Path). A curve in space tracing the points successively occupied by a particle or body in motion. At any given instant the velocity vector of the object is tangent to the *trajectory* . . . . Note that the use of the term trajectory for the path of a body implies that its motion is the result of an externally applied force (i.e., not an engine or propellent in the body itself), and that it usually also implies an open path.

The Van Nostrand definition refers to concepts pertinent to the clarification of the distinction between **trajectory** and **orbit** as it applies to VOM. There are four statements concerning **trajectory** in the Van Nostrand definition: (1) "A curve in space tracing the points successively occupied by a particle or body in motion." (2) "At any given instant the velocity vector of the object is tangent to the *trajectory* . . . ." (3) "Note that the use of the term trajectory for the path of a body implies that its motion is the result of an externally applied force (i.e., not an engine or propellent in the body itself). . . " (4) "Note that the use of the term trajectory for the path of a body . . . usually . . . implies an open path." The second statement will be discussed after the other three.

Using the Van Nostrand definition, we can approach an understanding of **trajectory** from two bents: (1) a general verbal explanation of the resulting path of a projectile in motion (set out in the first, third and fourth statements), to which is added a rough sketch (Figure 3.5a1); and (2) a **vector** description (set out in the second statement), with which is included a verbal or graphical presentation (Figure 3.5b).

3.5.2.1 Statement (1): "A curve in space tracing the points successively occupied by a particle or body in motion."

The first statement in the Van Nostrand definition implies that the trajectory is a curve that traces successive points in space taken up by a particle or body in motion. Unlike a "particle," a "body" is extant, i.e., it has physical mass. However, for the sake of mathematics and physics calculations, a body is considered to be a point in the center of its mass that represents a particle and it is this point which follows the "trajectory" or a curve. Mathematically speaking, a "curve" is a **locus** of points.

The reference in sentence (1) to "trajectory" as *the path of a body in motion* allows the description to be applied as an attribute of both of the notions between which this thesis is attempting to differentiate--**trajectory** and **orbit**. By pertaining to both notions, the first statement is distinguished from the scope of the latter three. Statements (2), (3), and (4) in the Van Nostrand definition imply that the term "trajectory" applies specifically to the notion of **trajectory** and, to use a privative opposition, not necessarily to the notion of **orbit**. These latter statements about **trajectory** may be wielded as analogies to **essential** features of the motion, which is considered determinate, as distinguished from that which is indeterminate. The characteristics of **orbit** can be thought of as analogous to indeterminate motion.

Because statement (1) can refer to both **trajectory** and **orbit**, it may aptly represent the **underlying-lexical** meaning that the members within a VOM pair, (such as идти and ходить), as well as all the VOM pairs (плыть/ плавать, лететь/ летать, etc.) have in common--"*to go*." The difference between **orbit** and **trajectory** is analogous to the **grammatical-lexical** distinction between the two types of VOM.

Nevertheless, the description of **trajectory** as "*a curve in space tracing the points successively*[13] *occupied by a particle or a body in motion*" implies "advancement along a line." The "successivity" of points in space calls to mind what Foote refers to as "progressive motion."[14] He states that **progressive motion** is "motion that involves the subject (or object in the case of transitive verbs) in a *change of location*" (1967:7). The accumulation of the successive points, as indicated by a **trajectory**, reveals the distance travelled by the object. If a point along the distance travelled is measured at a specific instant from its origin, the object's **displacement** can be determined. The well-discussed idea of **displacement** is an **essential** characteristic of determinate action but not of indeterminate. The first Van Nostrand statement may be considered an inchoate description of **displacement**. To complete its definition, reference to a "***resultant*** *change in location*" would have to be added to the idea of "advancement along a line." These two notions would then describe the action that is called determinate.

Progressivity, on the other hand, as distinct from **progressive motion** is characteristic of the imperfective aspect as a whole. Statement (1) about "trajectory" suggests the idea of **progressivity**--*successive accumulation of points in space of a body in motion* ***over time***. Each member of a VOM pair, by definition both imperfective, expresses **progressivity**. Thus "trajectory" in statement (1) may describe each member of a VOM pair.

3.5.2.2 Statement (3): "Note that the use of the term trajectory for the path of a body implies that its motion is the result of an externally applied force (i.e., not an engine or propellent in the body itself). . . "

The gist of this discussion is that the characteristics distinguishing determinate verb action from the indeterminate verb action may, in a general way, be compared to the characteristics distinguishing the path of a projectile from the path of a satellite, respectively, described as an "open" trajectory and a "closed" trajectory, or simply, "trajectory" and "orbit."

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[13] Italics and bold attributes on fonts are mine.

[14] This has been discussed in Chapter II.

It was mentioned earlier, that the physics/ mathematics notion of **trajectory** can be explained, after the manner of ballistics, as a curve described by a projectile. A projectile is defined as "*a body projected by exterior force and continuing in motion by its own inertia*" (Webster's New World Dictionary). This, in essence, expresses the meaning of statements (3) and (4), which imply that the term "trajectory" specifically refers to the path of a projectile rather than to the path of a satellite.

Statements (3) and (4) indicate several notions about "trajectory." There must be a force to initiate the action (the motion is the result of an applied force). The applied force must be external. No further force, from outside or within the body, is to be exerted as it proceeds along its way (it travels by own inertia). It usually implies an open-ended path--a body continues its motion without returning to its point of departure. These ideas deal, first, with the initiation and then, with the continuation of the flight of a projectile.

According to statement (3), for the term "trajectory" to be used for its path, a body's motion must be the *result of an externally applied force*. One point the description makes is that there must be a force to originate the flight of a body. Whether the body moves along an open path or a closed path, i.e., whether it behaves as a projectile or satellite, there was a force that initiated its motion. An artificial satellite as it moves along an orbit around the earth was originally propelled by a force, which could have been *external* or *internal*. The requirement for the path to be described as a "trajectory" is that the originating force be applied externally, which means that a "trajectory" describes a path of a projectile, but not necessarily of a satellite.

The force brought into play at the beginning of the movement, is the "originator" of the motion described by a **trajectory** path. **Trajectory** having an "origin" suggests that the impending direction is predestined, that the original "push" governs the continuing future path of the body (taking into account gravity, wind resistance, etc.). The initial force implies that there is a course, a purpose, a direction predetermined in the movement. The same may be said about **orbit**.

Calling a force "external" means that the energy source is not attached to the travelling body. The swing of a bat is the *externally applied force* that originates the motion of a baseball, and the thrust of a fueled engine is the *externally applied force* that originates the flight of a rocket. However, along with the initiating externally applied force other parameters affect the flight of a projectile such as the constant downward effect of gravity; natural obstacles, e.g., wind resistance; or the inherent physical characteristics of the projectile itself, e.g., the indentations on a golf ball. Of course, the latter three always play a role in the unavoidable reality that ultimately affects the path of a body in motion on this planet. Though pertinent to scientific calculations, these finer considerations will be ignored because they do not dispute the inherent characterization of the **trajectory** of a "particle thrown obliquely into the air" nor are they relevant to the continuation of the discussion of the characteristics of **trajectory** as they apply to VOM. What is relevant to our discussion on VOM is the requirement that an original force plunge the body into motion toward its destination--the original force, as far as VOM are concerned, being the purpose of the action of the verb which is "*to go*."

An external force is applied at a specific moment. The point at which the projectile begins its flight, mathematically, i.e., when time equals zero, $((t) = 0)$, will be the point at which a ball leaves the surface of the swinging bat or the point at which the fuel in the rocket engine is spent--this is the origination point of the projectile's **trajectory**. The DIRECTION that the motion of the projectile takes is determined at this point.

A detail about the external force that concerns the **trajectory** of a projectile is the *specific moment in time* at which it is made. It can be employed as a reference to another *specific moment in time* later during the flight of the projectile, creating an interval of time that is employed to describe the **trajectory** of the projectile: **trajectory** involves **displacement**. **Displacement**, of course, can also be measured within different time intervals along the way. The understanding that **trajectory** takes into account the timing of the original external force distinguishes it from **orbit**. **Orbit** can be considered without reference to the timing of the initial external force.

Statement (3) also clarifies the role of force, *external*, *internal*, or lack of, in the continuation of the endeavor. The statement implies that *after* its triggering by an external "push," the flight of the body in motion in the direction of its intended destination must be independent of the further influence of intervening forces, both from within the projectile itself (a propellent) or externally (another bat). By the Van Nostrand definition, such forces are proscribed from contributing to the flight of a projectile, the path of which is encapsulated in the term **trajectory**. External forces like gravity, wind resistance, etc. cannot be avoided.

The limitation of the force to an external action, and only at its initiation, implies that the DIRECTION of the path is not swayed by anything along the way if it is to remain a **trajectory**. The influences that affect the DIRECTION of the movement have already been put into effect at the point of origin of the motion by the externally applied force.

The force triggering the action of a projectile must be applied externally, and then, after the original external force, the projectile must continue under its own inertia. Furthermore, the projectile's course is open-ended. This is not so for a satellite--its flight can be internally propelled at initiation and continuation and does not have to be open-ended (it tends to return to an earlier position).

The limitations imposed on the meaning of **trajectory** can be adapted in a general sense to a description of the motion of determinate verbs. The idea encapsulated in the term **trajectory**, that the motion of a travelling object *"is the result of an externally applied force,"* may serve as a comparison to highlight the characteristics of the movement of determinate verbs. The development of the action of a determinate verb can be described as if it were a projectile's **trajectory**--from its beginning as the result of an external force to the penultimate point of its flight, before it reaches its target or is pulled down by gravity. The determinate verb can be designated "the trajectory verb" and the indeterminate verb can be referred to as the "orbit verb."

Now, humans or animate beings (that are represented as subjects of sentences) do not regularly behave as projectiles unless, e.g., they jump off a building or are shot from a cannon. The major defining characteristics of movement that a **trajectory** of a hurled object embodies can be applied to motion that a determinate verb represents: the subject of a determinate verb can be considered to behave like a projectile. As this thesis shows, such an approach is very useful in distinguishing determinate motion from indeterminate.

If the movement inherently described by **trajectory** is brought into play at the beginning of the action by an externally applied force, then by analogy the path taken by the determinate verb is triggered by its own externally applied force--the original purpose for the subject's motion. Thus, it can be said that the DIRECTION (the decision "*to go*" and "*where to*") of the motion to be taken by the subject of a determinate verb is decided at the origination point of the movement. The intent at the origin of the endeavor determines the path, that is, the DIRECTION that the grammatical subject takes. The point mentioned earlier, that the motion of either **trajectory** or **orbit** can be considered to begin with a "push," is adaptable to the description of the VOM--both types having motivation and direction for their action.

The **trajectory** idea indicates that the motion of a determinate verb is motivated by an intention at its origination and is set on its course toward fulfillment along a deliberate path in a specific direction. For a determinate verb there are to be no other forces (influences) that deter the subject from moving toward its goal. If a subject is thwarted in its original mission, and changes in its direction, then the trajectory verb is not appropriate.

A person can certainly change his mind and go somewhere else or be confused in what he is doing, by changing the **direction** he takes. But in this case, the predetermined **direction** only interests us as determinate verb action as long as the original intention is being carried out. The trajectory verb is assigned to express this portion of the subject's motion. Like the launching of a projectile toward a destination whose direction is predetermined by the original force, the action of the determinate VOM towards its goal, as it is being carried out, is unswayingly governed by its original motivation. If one were to look back from a location along the way, it would be to the point of original intention from which the subject moved. The attained position of a projectile (by analogy the subject or object of the sentence) can only be ascertained relative to an earlier position, e.g., the point at which the goal of a verb of motion is predetermined. What is in play all the time is the original intention of the motion. As long as the goal is not achieved, but continues toward it, the determinate verb is applied.

Within the stretch of time encompassed by the determinate verb, the action has begun, generally, with the purpose of going toward a stated goal. For a determinate verb, once the course is set, the subject progresses, but never arrives--the intended goal is never reached within the duration. Even if a specific goal is not indicated in the sentence, when a determinate verb is involved, that action is still forward going and continues on doggedly as if there were a purpose. Although the endeavor could theoretically be part of a more complicated activity, it describes only one "leg" of the trip, i.e., it goes only in one way, or in one direction, never reaching its goal, e.g., "{**Она идёт на ферму за молоком**--*'She is (now) on her way to the farm to get milk, (but she has not gotten there yet)'*}."

The endeavor described by the indeterminate verb can also have a stated goal, but unlike the determinate it is usually completed. For the orbit verb, the action generally involves more than one direction, way or leg--there and back, e.g.,"{**Она ходит на ферму за молоком**--*'She (habitually) goes to the farm to get milk'*}." The indeterminate verb may have more than one goal implied in the action and it can go more than one way as it fulfills its goals, e.g., it is to get the milk and return with it, more than once.

The fulfillment of its mission by an indeterminate verb can be compared with **orbit** completion. However, as discussed more than once in this thesis, not all actions described by the indeterminate verb have a stated goal to fulfill, e.g., {**Пьяный ходит по улицам**--*'The drunk is walking (meandering) in the streets'*}. The indeterminate action may be random, like that of the meandering drunk. He may be trying to get home or find another drink but the way is not understood to be clear to the subject of the verb. In the process, he may retrace an earlier position, thereby completing an orbit. Sometime, when an indeterminate verb is used with no stated goal, then it is the action itself that is its purpose, e.g., {**Ребёнок уже ходит**--*'The child can walk already'*}. For a determinate verb, the detail important about the original intention is that it is made at a specific moment, like the external initiating force of the **trajectory**. As the action progresses it can be viewed at a later specific moment along the path. At such a point it can be noted that the action has accomplished a change in position for the subject, i.e., **displacement** has occurred within the interval of time.

Displacement is continuous for the determinate verb because the action is never completed. On the other hand, many usages of the indeterminate verb show a fulfillment of a goal and thus no resultant **displacement**--the subject goes back and forth. When there appears no **displacement** of the subject in the overall action, the orbit verb is the suitable one.

*3.5.2.3 Statement (4): "Note that the use of the term **trajectory** for the path of a body . . . usually . . . implies an open path."*

Also inherent in the term **trajectory** is that it is "*usually an open path.*" Issues that pertain to **trajectory** as an open path *vs* **orbit** as a closed path have been discussed in the preceding segment, but some points will be considered in this segment. The idea that a **trajectory** is usually an open path is reinforced by the portrayal of **trajectory** as the (1) successivity of points in space of a body in motion, and (2) the description of the motion of a body as the result of an externally applied force.

A **trajectory** is an open path described by a projectile in air, whose location can be viewed at a specific moment, as it were happening--now, not potentially or theoretically. **Trajectory** describes motion **in progress**: one only sees the path as it is going along, as it progresses, never at the final point of its intended destination. The progressive action represented by a **trajectory** exudes the sense of immediacy, of happening now in the present, of not having happened before. The understanding is that the successive points plotted during the performance of the motion of this event have not been traced before. It can be inferred that the **trajectory** path is inherently forward-going, open-ended, and can be described by all the following synonyms--cannot retrace, repeat or cancel itself; cannot cross its own path; cannot backtrack; moves along a course not returning into itself.

The trajectory of a projectile is "open." It is open because it does not complete nor repeat itself. The implication of statement (4) is that this open-ended feature is necessarily inherent in **trajectory**, but not necessarily in **orbit**. In contrast to **trajectory**, **orbit** may be a closed path, may cancel its action or may repeat itself. Not having to be open-ended it can back-track. An **orbit** is a description of a potential route. With **orbit** one may consider the complete course of the action or its potential for repetition, and thus for cancelling its action.

When applied as a description of determinate, in contrast to indeterminate movement, the idea that a body in motion follows a curve tracing its successive positions along an open path (**trajectory**) makes it "clear that the possibility of the subject retracing its steps (or occupying the same spot more than once) is explicitly excluded by **идти**-type verbs, but implicit in **ходить**-type verbs" (Launer (1987:79), following up on the ideas presented by Pahomov (1977, 1979)). The determinate verb's route is open, the action is never completed, and no 'back-tracking' along the path is envisioned; however, since determinate verbs are goal oriented their paths can lead in a predetermined destinations.

In the sentence, "{Он идёт в театр--*'He is on his way to the theater'*}," the verb precludes the arrival of the theater-goer, but in the sentence, "{Он ходит в театр--*He (habitually) goes to the theater'*}," the theater-goer arrives at the theater more than once. The extent of the path encompassed by a determinate verb of motion runs from the grammatical subject's point of departure, continuing along the way toward the penultimate point of its destination, but never reaching it. The action described by a determinate verb is also open, never completed. This can be related to the "open path," which is implied in the term **trajectory**. The path of a projectile in motion runs from the point of its initial force along its "open path." It may not be closed, that is, it is not completed as is the path of an **orbit**. The **trajectory** is "open" until it returns to its source. When it does, the **trajectory** is no longer an "open" one, but is a "closed" trajectory and thus it becomes an **orbit**.

The curve described by a body in space, such as a projectile passing from a muzzle to the first point of impact, is referred to as a **trajectory**. Although the motion described by a determinate verb is not literally the same as motion described by **trajectory** of a projectile, the characteristics of the **trajectory** of a projectile from the start to just before it reaches its target can be applied as an analogy to describe the verb's motion. The **идти**-type VOM does not have to follow the classic shape of the **trajectory** of a projectile, it just has to continue forward, never getting to its intended destination and never crossing its own path. Eventually, an unassisted projectile terminates its flight due to gravity, hitting its target, or going into orbit in space. The end of the "flight" of an **идти**-type verb, i.e., the fulfillment of its mission, never occurs because that is the nature of the determinate imperfective verb.

The **trajectory** idea that the effective change in location of a body in motion results in **displacement** can be applied as characteristic of subjects and objects of determinative verbs, but not of indeterminate verbs. This open-ended **displacement** implying **progressive**

motion is a characteristic of determinate verbs, but not necessarily indeterminate verbs. This is distinct from **progressivity**, with temporal nature characteristic of both verb types.

3.5.2.4 Statement (2): "At any given instant the velocity vector of the object is tangent to the trajectory . . . ."

The second statement in Van Nostrand's definition involves the description of **trajectory** through the means of **vectors**: *"At any given instant the velocity vector of the object is tangent to the trajectory."* Revealing **trajectory** in terms of the **velocity vector** complements the already discussed description in the Van Nostrand definition of its distinctive curve (1) as the tracing of the successive points occupied by a moving body in space, (2) as representing an action originated by an external force, and (3) as representing an action continuing open-endedly.

Although a trajectory can be defined in terms of **average velocity**, it is **instantaneous velocity** to which is referred in statement (2). The **instantaneous velocity vector** of a projectile in motion is represented by a **tangent** to its **trajectory**. This means that when viewed at a particular moment, the DIRECTION of the object's motion is expressed by **instantaneous velocity** and may be found in a **vector** diagram as a **tangent** to a point along its **trajectory**.

As Pahomov states, a trajectory specifies "location" and "direction" of a point in motion at a particular instant of time. In the representation of Pahomov's diagram (Figure 3.4(1)), the dot marked (a) or (b) represents ***any*** point along the path of a body in motion. The directional line or arrow (→), which is **tangent** to the curve, is the mathematical correlate of a **vector** quantity--**velocity** which gives "direction" (DIRECTION). As noted by Pahomov, **trajectory** is defined by three features: point in time, location in space, and direction [DIRECTION]. These three elements are represented by the "**velocity vector**" and its location along the trajectory mentioned in Van Nostrand's definition.

Determinate motion can be characterized by the three elements of **trajectory**. The interrelationship of these three elements present determinate notion as a **derived** notion. This is what Ward means when he talks about the determinate verb as a **derived** notion.

The meaning of **orbit**, as extrapolated by me from the limitations imposed by the Van Nostrand definition of "**trajectory**," excludes the consideration of **velocity**, **displacement** or DIRECTION. An **orbit** is not observed from the POV of **instantaneous velocity**. This is because "orbit," in the sense being used here, is ***not*** the path of an object observed at *a specific moment*, as can be the path of a body in motion along a **trajectory**. An **orbit** cannot be defined by **average velocity** because it does not describe an object's **displacement** over an interval of time relative to an origin. The **orbit** is considered to be viewed for a duration that is longer than an instant in time--the interval of time includes at least one round trip of the object in motion and possible repetitions. An object moving along its path, which may be an orbit, takes on the characteristics of **trajectory** the very moment it is viewed *at a specific instant* or over an interval of time that avoids a retracing of a point along its path.

The notion of "a specific moment in time" plays no part in the description of **orbit** as a contrast to **trajectory**. **Orbit** is a path traced by something in motion, but there is no particular time reference (a specific moment) on which the path is dependent. As implied by Pahomov, **orbit** may be considered atemporal because it is not viewed at *a specific moment of time*.

When we consider the **trajectory** of an objected hurled into the air, there is the implication that it has **velocity** which has been provided by an originating external force (statement 3). **Orbit**, to be distinguished from the **trajectory** of a projectile, is considered without reference to an originating external force.

In a sentence where it is the intention to describe the grammatical subject of a verb of motion, at a specific instant in the process of its action, the determinate verb is applied. The determinate verb is used when there is an interest in the current status of the progress of the subject of a verb of motion. The path taken by the grammatical subject of a determinate verb of motion is akin to **trajectory**. The determinate verb is the grammatical correlate to the **instantaneous velocity vector,** which describes a **trajectory**.

Interpreting Pahomov's ideas relating **trajectory** to the determinate verb of motion, Launer states that "there must be a *specific subject actually engaging in the activity noted" and, therefore, the subject has "a particular direction and velocity* (≠0)" (1987:79). He continues, "Accordingly, whenever one needs to describe with an unprefixed VOM what the subject 'does') [in a theoretical sense] as opposed to what it 'is doing') the indeterminate must be used . . . " (1987:79). Идти-type verbs are said to describe activities in the process of taking place at "a specific instant in time." By analogy, this is because the **instantaneous velocity vector,** which is **tangent** to the **trajectory**, depends on measurement at "a specific instant in time." Determinate verbs include the time attribute of **trajectory**, while the indeterminate verbs like **orbit** are "beyond time."

Generally, features describing **orbit** can be applied to the indeterminate verb of motion. The action or movement of an indeterminate verb is not viewed "*at specific moment*" in time. Neither is it viewed at a specific moment of an interval of time, with reference to its point of origin. This then removes the requirement of **displacement** and thus DIRECTION as an attribute of indeterminate verbs.

*3.5.3 Summary of **trajectory**/ **orbit** and идти-/ ходить-type verbs*

To summarize, the action described by идти- and ходить- type VOM may be considered analogous to the physics/ mathematics notions of **trajectory** and **orbit**, respectively.

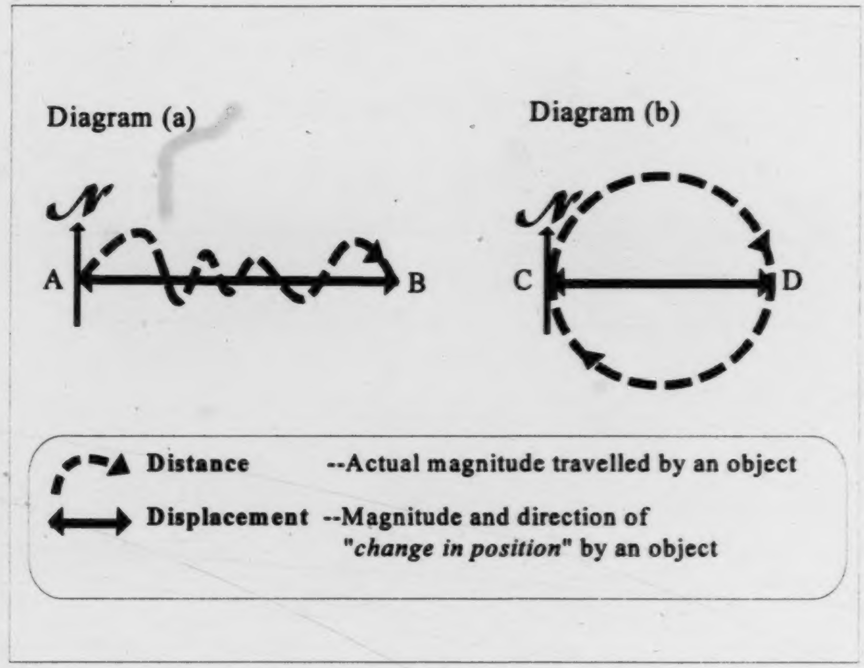
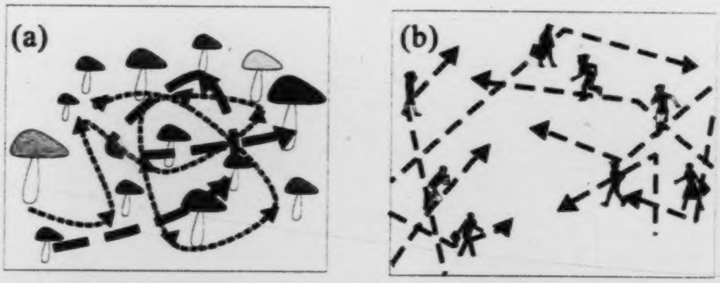


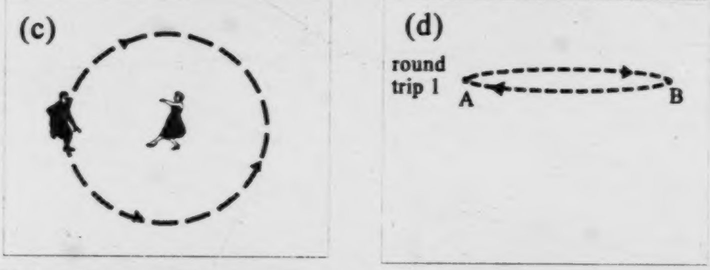
Diagram (a)
Diagram (b)
N
A
B
N
C
D
Distance --Actual magnitude travelled by an object
Displacement --Magnitude and direction of "change in position" by an object

Figure 3.1: THE DIFFERENCE BETWEEN DISTANCE AND DISPLACEMENT



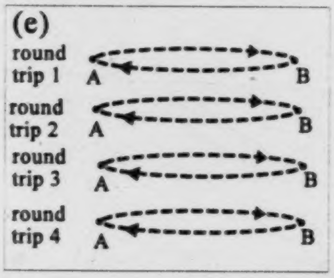
{Теперь они вместе собирают грибы, ползают по траве . . . (Aksyonov, Пора, мой друг, пора)--'*Now they gather mushrooms together, crawling about in the grass*'} (Foote 1967:23)

{Внизу люди бегают как муравьи (Nekrasov, В родном городе)--'*Down below people are running about like ants*'} (Foote 1967:23)


(c)
(d)
round trip 1
A
B

{Он вприсядку ходил вокруг Сони" (Chukovsky, Балтийское небо)--'*He danced (went) round Sonya on his haunches*'} (Foote 1967:24)

{Вчера мы ходили в кино--'*We went to the cinema yesterday*'} (Foote 1967:24)

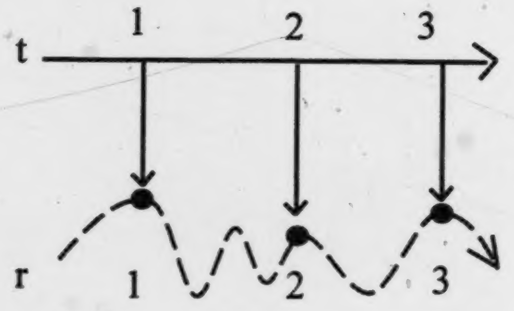

(e)
round trip 1
A
B
round trip 2
A
B
round trip 3
A
B
round trip 4
A
B

{Тётя Паша и шофёр стали носить всё это в дом (Panova, Серёжа)--'*Auntie Pasha and the driver set about carrying all this into the house*'} (Foote 1967:26)

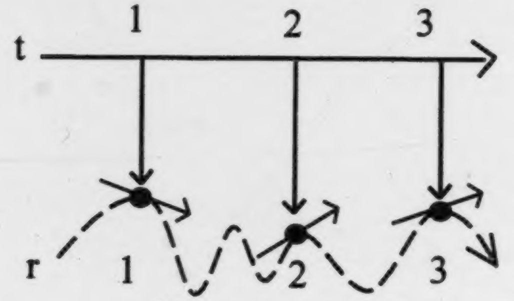
Figure 3.2: GRAPHIC ILLUSTRATION OF THE RANGE OF USE OF INDETERMINATE VERBS*

**Inspired by Foote (1967:23-26)*

(a) as diagrammed by Ward (1965:253)

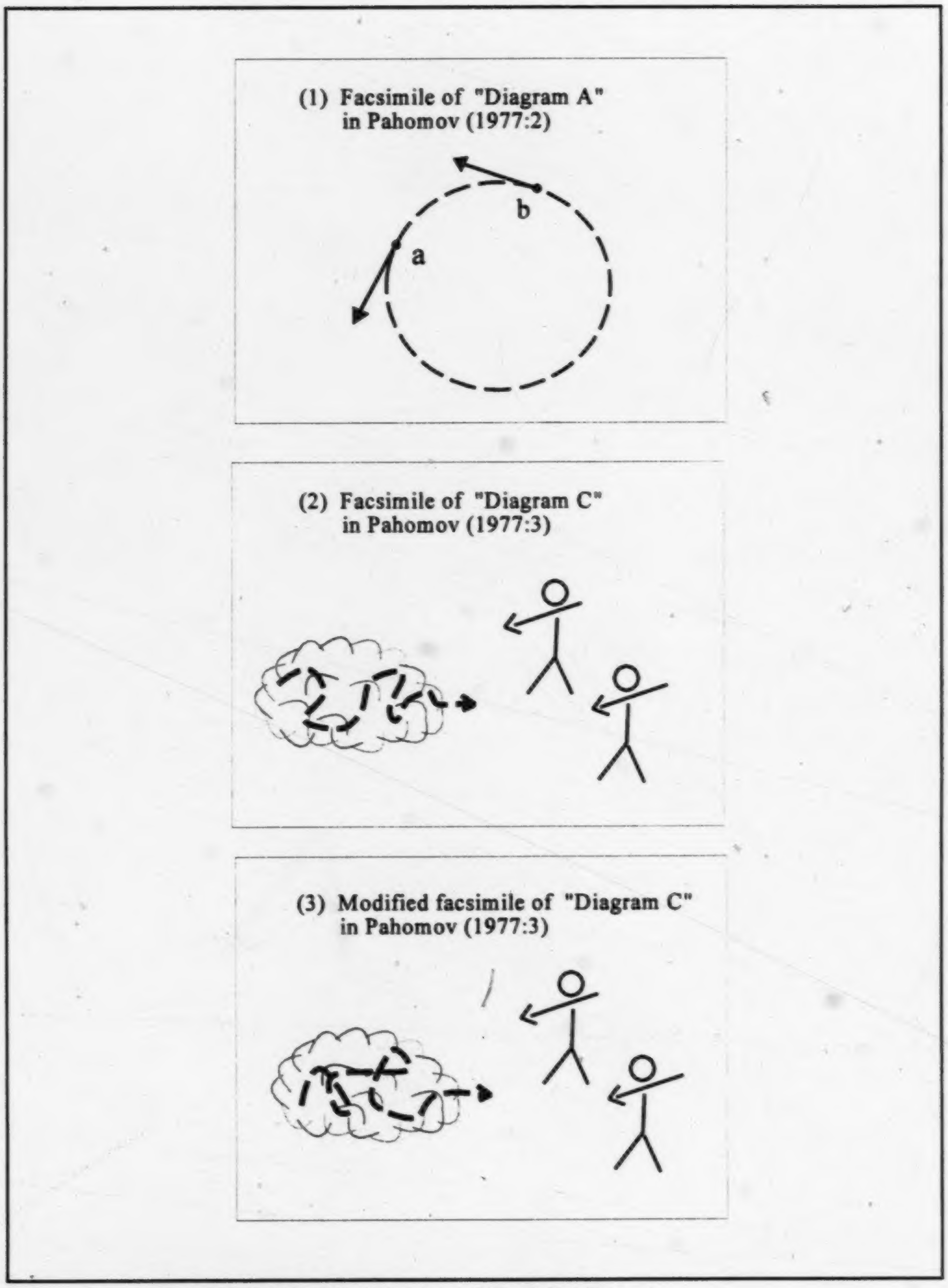


(b) Ward's diagram enhanced by S. Bahry



t--time-continuum
r--circuitous route
↗--moving object's DIRECTION at a
specific moment in time and location

Figure 3.3: UNIDIRECTIONAL MOVEMENT AS A DERIVED NOTION



(1) Facsimile of "Diagram A" in Pahomov (1977:2)

(2) Facsimile of "Diagram C" in Pahomov (1977:3)

(3) Modified facsimile of "Diagram C" in Pahomov (1977:3)

Figure 3.4: PAHOMOV'S BULL AND BOAR*

**Pahomov (1977:1-5)*

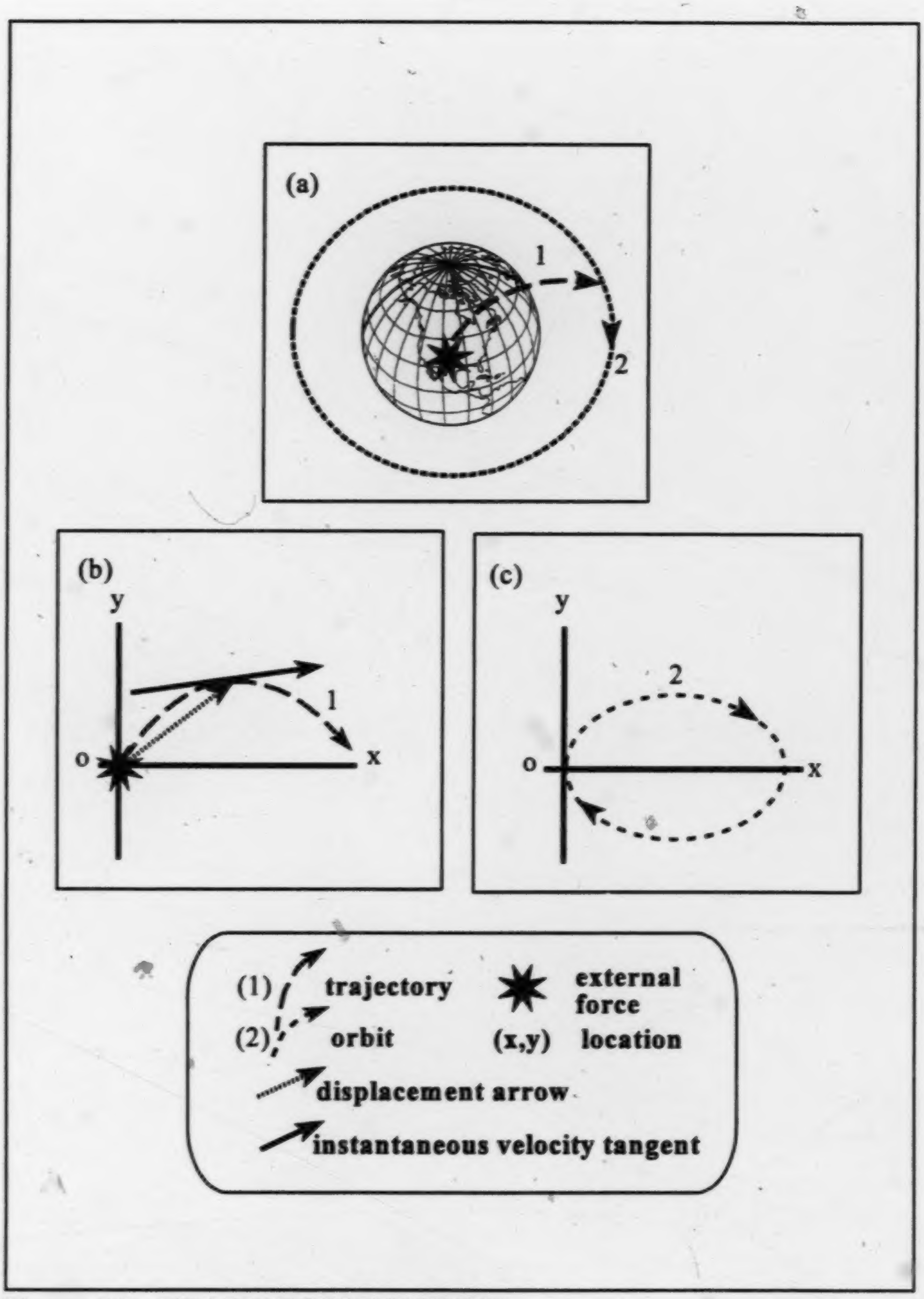

(a)
1
2
(b)
y
o
x
1
(c)
y
o
x
2
(1)
trajectory
external force
(2)
orbit
(x,y)
location
displacement arrow
instantaneous velocity tangent

Figure 3.5: TRAJECTORY *VS* ORBIT

CHAPTER IV: "CONTEXT" OR THE RELATIONSHIP OF THE SIMPLE VERBS OF MOTION TO "MOTION ALONG A LINE"

4.1.0 Determinate and indeterminate VOM *in terms of "motion along a line," "complexity," and "context."*

The focus of this chapter is the term "context" as it relates to the idea of "*motion along a line*," and how it is applied to distinguish between determinate and indeterminate verbs. Foote elucidates on this topic in his "Verbs of Motion" (1967). Inspired by Foote's observations, I have included illustrations (Figures 3.2, 4.1-4.8, and Table 4.1) to complement several of his explanations and examples.

4.1.1 "Simple motion along a line"as it pertains to determinate motion

The following is a definition of determinate motion that encompasses a wide range of circumstances: *simple progressive motion along a line, when observed at a particular instant of time*. This denotation contains three essential features that describe determinate action. It is (1) progressive motion; it is (2) simple movement along a line; and, it is (3) observed at a specific instant of time.

According to Foote, the *essential* feature of determinate motion entails the presence of "any kind of *progressive* idea" (1967:22) which means, "any *effective change of location* of the subject (or object)" (1967:22-23). The idea may otherwise be referred to as "**displacement**," extensively discussed in Section *3.2*. The notion of "*progressive* motion," (Foote 1967:7) may be expressed by words indicating "motion in progress," "the idea of *getting along*, of *making progress*," (Foote 1967:14), "advancing, marching forward," "advancement along a line," and so on. The idea "simple" indicates that the motion goes "toward a single direction (one way)," "for a single time," and "along a single line." A similar means of describing most situations expressed by the determinate verb is "*progressive motion one way (in one direction), along one line, on one occasion, and observed at one instant of time*." Generally, when any one of the criteria in the definition is violated, the motion is no longer considered determinate, but falls into the realm of the indeterminate.

4.1.2 "Motion along a line" as it pertains to indeterminate verbs

According to Foote (1967:8-9), if it is understood that movement expressed by the determinate verb is "simple progressive motion along a line," then there are two manners in which motion can be expressed by the indeterminate verb[1]:

(1) "by being motion taking place non-progressively" "(i.e., 'complex' motion of various kinds)"

(a) "along a number of lines (i.e., in different directions)"
(b) "along a single line a number of times"
(c) "forward and back along a single line"

(2) "by being motion envisaged in relation to no line at all (i.e., non-contextual motion)" (Foote 1967: 8-9).

See Segment *4.1.9* for the introduction of Figure 4.6, which outlines the range of use of indeterminate verbs.

4.1.3 How the observer/speaker's POV of the action reflects the "complexity" and "context" expressed by VOM

The choice of verb aspect (be it perfective, imperfective, determinate, indeterminate) for expressing an action is a "subjective" issue. For the determinate or the indeterminate sub-aspect, as well as for the other verbal aspects, the "context" in which one is used and the "complexity" of action that it describes is a matter of POV: the speaker/ observer can choose how he/she views the action and in what context he/she wishes to express the action.

To paraphrase Foote (1967:9), the basis for judging the "complexity" of the action expressed by VOM is the "context" of the motion. Foote consigns typical actions manifested by both types of VOM to three categories:

"in descending order of complexity, according to context:
(1) Complex actions (expressed by the indeterminate).
(2) Simple actions (expressed by the determinate).
(3) Non-contextual actions (expressed by the indeterminate)" (1967:9).

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[1] I have arranged the following words by Foote in outline format.

Category (1) above, "complex actions (expressed by the indeterminate)," corresponds to Items 4.1.2(1a), (1b), and (1c) from the preceding segment; category (3), "non-contextual actions (expressed by the indeterminate)," corresponds to Item 4.1.2(2); while category (2), "simple actions," corresponds to Foote's statement defining determinate motion--"simple progressive motion along a line" (1967:8).

4.1.4 The relationship among the forest, the tree, and the timber to POV as an analogy to the description of the "context " categories in VOM

Foote discusses the meaning of "context" and "complexity" as they apply to VOM, based on the ideas in the three categories. He explains that any complex action of the ходить-type must consist of an aggregation of simple actions of the идти-type. Foote (1967:9) refers to an example, "{Он ходит по комнате--*'He is pacing the room'*}" mentioned by Forsyth (1963:149): the sentence describes a complex action composed of several separate actions, and if you focus closer on any part of his movement, you switch from the arena of the complex into the area of the simple action, in the process, changing from the indeterminate to the determinate verb (1963:149). Foote elaborates further:

> If the action is viewed from a distance, as it were, in the mass, or over a period of time, the observer has only the impression of a collective action (indeterminate); if it is viewed more closely, at a particular moment the perspective of the observer will be limited to one instant of time in only one stage or 'leg' of the action (determinate); then if the observer narrows his view still further, so that he sees only the subject, detached from his surroundings, performing movements unrelated to any *line of action*, he will again be in the sphere of the indeterminate. (Foote 1967:9)

Foote draws an analogy of the change in POV of the action, i.e., the "context" in which it is observed, to the changing perspective one can have in viewing a forest, a tree in the forest or the timber--from the collective,[2] to the singulative, to the physical content of both (1967:9). Figure 4.1 illustrates Foote's analogy of the relationship of the forest, the tree, and the timber. Visual renderings of Russian sentences describing such perspective changes are presented in Figures 4.2 - 4.5. as well as Figure 3.2.

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[2] See Segment *4.1.6* for the definition of the terms "collective" and "singulative" as they apply to VOM.

4.1.5 Difference in "contextual limitations" regarding "motion along a line" as applied to VOM

The foundation for the application of the terms[3] "contextual" and "non-contextual" to VOM is the idea of "*motion along a line,*" which stems from the definition of determinate motion as "*simple progressive motion along a line.*" The relationship of the subject to the "line of motion" imposes the "context" which a VOM describes. The following is a reiteration of the Foote summary quoted in Segment *4.1.2*, but with emphasis on "line" in terms of "context" and "complexity."

Determinate action is "simple motion along a line" while indeterminate action can be "motion along a line." While determinate action is *simple progressive* motion along a line, indeterminate action can be *non-progressive* motion[4] (a) "along a *number* of [single] lines, (i.e., in different directions)"; (b) "along a single line a *number* of times"; (c) "*forward and back* along a single line." The idea of "motion along a line," whether *simple* or not, or whether *progressive* or not, depends on its "context" as revealed by the observer/ speaker's POV.

Furthermore, only indeterminate motion (as distinct from determinate motion) can be "envisaged in relation to *no line at all*"[5] (Foote 1977:9). Motion seen in relation to "*no line at all*" is "non-contextual" motion. "Non-contextual" motion is motion that can be "referred to absolutely, detached from any delimiting context" (Foote 1967:16).

Therefore, the fewer the lines along which motion proceeds, whether over a period of time or in the mass, the less "complex" the action. The view which the observer/ speaker takes of the action determines the "context" or "degree of complexity" of the motion which is then described by the chosen VOM. This comparison has been rendered visually in Figures 4.2-4.5. These examples distinguish between determinate and indeterminate VOM and the different types of indeterminate motion.

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[3] *Cf* footnote 16, Chapter I.

[4] The italics are added by me to the following quoted three-item list from Foote (1967:9).

[5] Italic emphasis mine.

4.1.6 Simple/Singulative vs complex/collective

Foote (1967:16) affirms that "determinate verbs describe actions viewed as simple or singulative[6] (not necessarily *single*, i.e., taking place only once)." The term,"simple" in regards to determinate motion means "along a single line" (extrapolated from Foote (1967:9)). For a determinate verb a simple action is motion along one line, one time, one way (in one direction). "Singulative" is "whenever a typical single occasion is referred to as exemplifying the general practice (a kind of *pars pro toto*)" (Foote 1967:16-17). "Singulative" has to do with a speaker focusing his POV on a single typical instance of the activity, which may happen more than once. This is because determinate verbs can express a habitual action.

In contrast to determinate verbs which are viewed as simple or singulative, "indeterminate verbs refer chiefly to actions seen as complex or collective" (Foote 1967:16). When referring to indeterminate motion, "not along a single line,"[7] as already pointed out, can mean "motion taking place non-progressively" (a) "along a number of lines (i.e., in different directions)"; (b) "along a single line a number of times"; (c) "forward and back along a single line." These three ideas describe "'complex' motion of various kinds." "Not along a single line" referring to indeterminate motion can also be "motion envisaged in relation to no line at all (i.e., 'non-contextual' motion)."

4.1.7 Visual description of "context": the playful dog (Figures 4.2-4.4)

Figure 4.2 introduces a simple visual representation of the three levels of "complexity" in terms of "context" as far as VOM are concerned. "Complex actions" can be broken up into

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[6] The term "singulative" should not be confused with its linguistics use for marked singular forms.

[7] Underlined emphasis mine.

"simple actions" in terms of "action along a line"; while "non-contextual actions" are presented without reference to a "line."

The total *complex* action involving the stages of the dog following her nose, sniffing or chasing anything along her path as seen in Figure 4.2(1) is expressed by the indeterminate. A complex action includes the extended path of the dog as a collective whole with all the changes in direction she takes. This POV of the action may be described by the sentence, "{**Собака бегает по парку**-- ***'The dog is running around the park'***}."

The complex chain of events encompassed by the indeterminate verb in the sentence, "{**Собака бегает по парку**-- ***'The dog is running around the park'***}," from Figure 4.2(1), may be broken up, as illustrated in Figure 4.2(2), into stages of action which then may be individually expressed by a series of sentences with the determinate verb '**бежит**': "{**Вот собака бежит от дерева к птице**--***'There the dog is running from the tree toward the bird'***}," "{**Теперь собака бежит от птицы к цветку**-- ***'Now the dog is running from the bird to the flower'***}," "{**Сейчас собака бежит от цветка к мячу**--***'At this moment the dog is running from the flower toward the ball'***}," etc. The complex action of the dog, expressed by **бегать** and illustrated in Figure 4.2(1), is made up of a number of individual actions, which in Figure 4.2(2) are expressed individually by **бежать**.

If one looks even closer (in this case only at the dog itself) one loses the context of surroundings and the only thing in view is the motion of the dog running. The non-contextual action only narrows the view of the "line" to the point of its non-relevance and concentrates only on the facility of the ability of the dog to move. When the view of the action is "narrowed," i.e., when all the observer/ speaker chooses to see is the dog detached from her surroundings, the only thing one may say is "{**Собака бегает**--***'The dog runs'***}, which in Russian is expressed by the indeterminate form. All one is interested in is that the function of "going" is being practiced by the subject.

It does not mean that, in objective reality, within the duration of some time span "{**Собака не бегает по парку**--***'The dog is not running around in the park'***}," or that at a specific instant in time, "{**Собака не бежит к птице в парке**--***'The dog is not running toward a bird in the park'***}." In this case, one is not concerned with the relationship of the action of the running dog in the "context" of a "line of motion." It is as if one had a zoom lens, the view of which could be focused from a panoramic shot to a close-up of an object in the panorama. This POV may or may not be a "part" of the duration of the action encompassed in the sentence, "{Собака бегает по парку--*'The dog is running around in the park'*}," but this "context" is irrelevant to the meaning expressed by the sub-aspect of the chosen verb.

4.1.8 Visual description of "context": Ivan's trip(s) to and from Moscow (Figure 4.5)

As Foote states, "Any complex ('ходить' type) action described by an indeterminate verb must be made up of a number of simple ('идти' type) actions" (1967:9). One can see this by comparing the difference in the number of journeys or "legs" of journeys in Figures 4.5(a), 4.5(b), and 4.5(c). In Figure 4.5, the symbol ⊙ represents Ivan driving his car. Action[8] as "objective reality" may be taking place as in 4.5(a). If one were to view the action "from a distance, as it were, in the mass, or over a period of time, the observer would have only the impression of a collective action (indeterminate)" (Foote 1967:9). If the observer/ speaker wishes to say in Russian that Ivan has been making several trips from Kiev to Moscow the following sentence containing the indeterminate verb would be used: {Иван ездит в Москву--*'Ivan (habitually) drives to Moscow'*}. The indeterminate verb describes "all the journeys as a collective whole, to describe his regular practice" (Foote 1967:9). The description of the duration of the action based on the observer/ speaker's choice of POV requires "ездить."

Or if Ivan has made one trip there and back in his car, the following sentence containing the indeterminate verb would be used: Иван ездил в Москву--*'Ivan drove to Moscow and back'*}. If the observer/ speaker wishes to focus on the duration limited to one complete trip he uses "ездить" in the past tense form.[9] The two journeys, showing two kinds of complex (contextual) actions that the indeterminate verb can describe, are presented in Figures 4.5(a) and (b).

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[8] See Segment *1.2.1* on the different meanings of "action."

[9] This one time trip is one function of the past tense of the indeterminate sub-aspect.

Foote continues, "Conversely, any 'ходить' action can be broken down into its 'идти' components" and "if you look more closely at the mover and pinpoint any particular part of his course, you move out of the range of the complex into the range of the simple action and switch from the indeterminate to the determinate verb" (as paraphrased by Foote (1967:9); from Forsyth (1963:149)). If the action is approached more closely, and observed at a specific moment, perspective will be restricted to one 'leg' of the action. Although Ivan travels regularly to Moscow, during a single performance of the journey towards Moscow one would say "{**Иван едет в Москву**--*'Ivan is (in the process of) driving to Moscow'*}." The action will be described by the determinative verb and the observer's perspective will be focused at one specific moment on one "leg" of one trip of the trips to Moscow as shown in Figure 4.5(c).

Foote (1967:9) adds that "if the observer narrows his view still further, so that he sees only the subject, detached from his surroundings, performing movements unrelated to any *line of action*, he will again be in the sphere of the indeterminate." In Figure 4.5(d), the perspective focuses only on the symbol representing Ivan driving his car without the context of his line of action--his trip(s) to and/or from Moscow. It is an absolute action in a vacuum with no "context." If one were to present visual images of the **literal-lexical** descriptions of the non-contextual actions, generally one type of image can be used--the one that focuses squarely on the subject as it performs its physical action such as the running dog or Ivan riding in the car. In these examples, the change in perspective requires the appropriate verb type, **ехать** or **ездить**, and may include a directional adverb (**в Москву**) for the two "contextual" categories, but not for the "non-contextual" category.

4.1.8.1 ***Displacement, orbit, and trajectory in Figure 4.5***

In the preceding segments, I have been concentrating on the implication of the phrase "*motion along a line*" from the definition of determinate motion as "*simple progressive motion along a line*." The words, "progressive motion" in the denotation obviously refers to

displacement, a topic whose relevance has been extensively interpreted in Chapter III. The examples in Figure 4.5 can be looked at in terms of **displacement**, **orbit**, and **trajectory**.

In Figures 4.5(a) and (b) the action follows an **orbit** and shows no **displacement**. The "leg" of the action in Figure 4.5(c) can be considered a **trajectory** of the body in motion. Then at *a specific instant of time* and *a specific point of location*, the direction of the motion can be determined from the origin to the point of **displacement**. In Figure 4.5(d) because there is no context for the action or DIRECTION to the movement, a **trajectory** is not followed and the indeterminate verb must be used.

4.1.9 Outline of the range of use of indeterminate verbs (Figure 4.6)

Indeterminate motion lacks the *essential* condition of any action expressed by determinative motion (Foote 1967:22). In other words, in ходить-type motion there is no progressive idea present, i.e., no *effective change of location* of the subject (or object); no simple motion along a line; and no viewing of the action at one instant of time.

In the segments of Section *4.1.0*, I have addressed the "contextual limitations" characteristic of determinative verbs and the lack of those same "contextual limitations" as being characteristic of indeterminate verbs, expressed as "*action in relation to a line*." As has been pointed out, within the realm of indeterminate verbs themselves, actions do take place contextually (i.e., in relation to a line) and non-contextually (i.e., not in relation to a line).

Figure 4.6 is a graphic outline concentrating on the range of use of indeterminate VOM, relative to *motion along a line*. It is based on Foote's description (1967:22-31) of the "lack of contextual limitations characteristic of indeterminate verbs." Complementing the outline are example usages (Table 4.1) corresponding to the identifications (S1), (S2), etc. in Figure 4.6. Also Figure 4.6 is enhanced with diagrams that have been introduced in Figure 3.2.

4.2.0 Comments on the idea of "motion along a line"

It is hoped that these graphic illustrations enhance the understanding of the implication of "*motion along a line*" as it relates to the distinction between the determinate and indeterminate verbs. One can imagine a literal manifestation of a "line"s in contemplating the VOM, as suggested by the included graphics. This "more concrete" interpretation differs somewhat from the "more abstract" understanding of "*motion along a line*"-- as the orientation of an object in motion at "*a specific moment of time,*" presented in Chapters II and III.

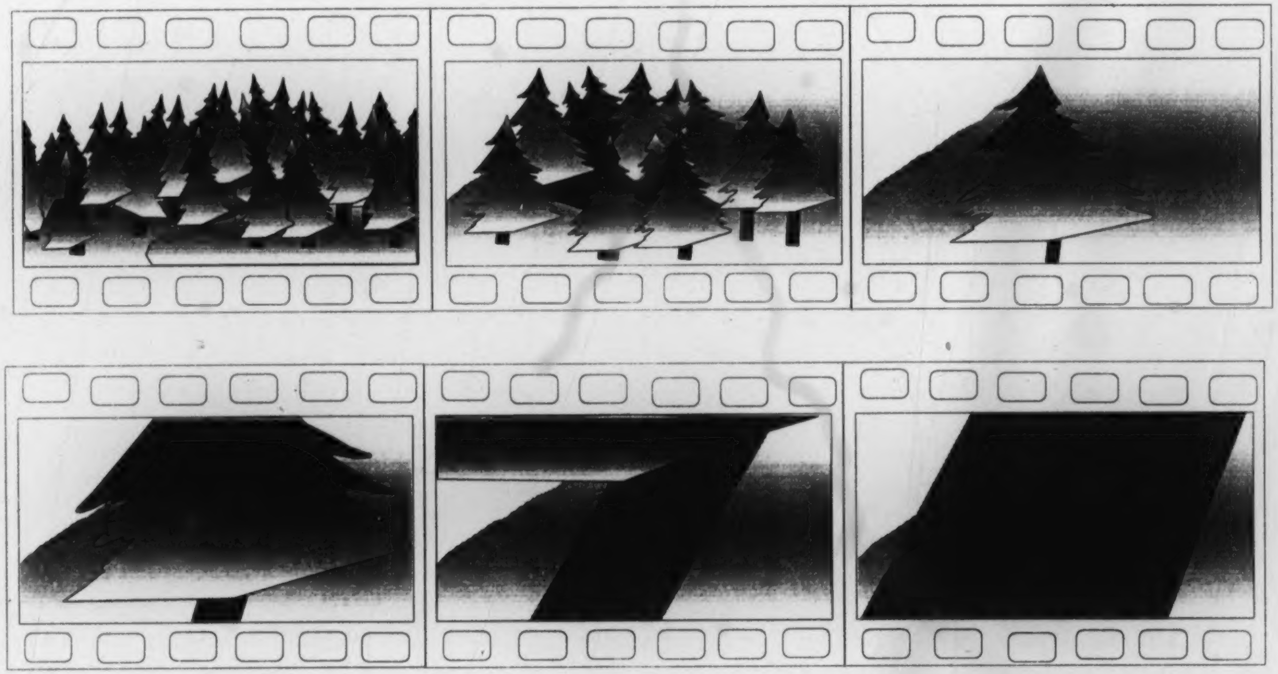
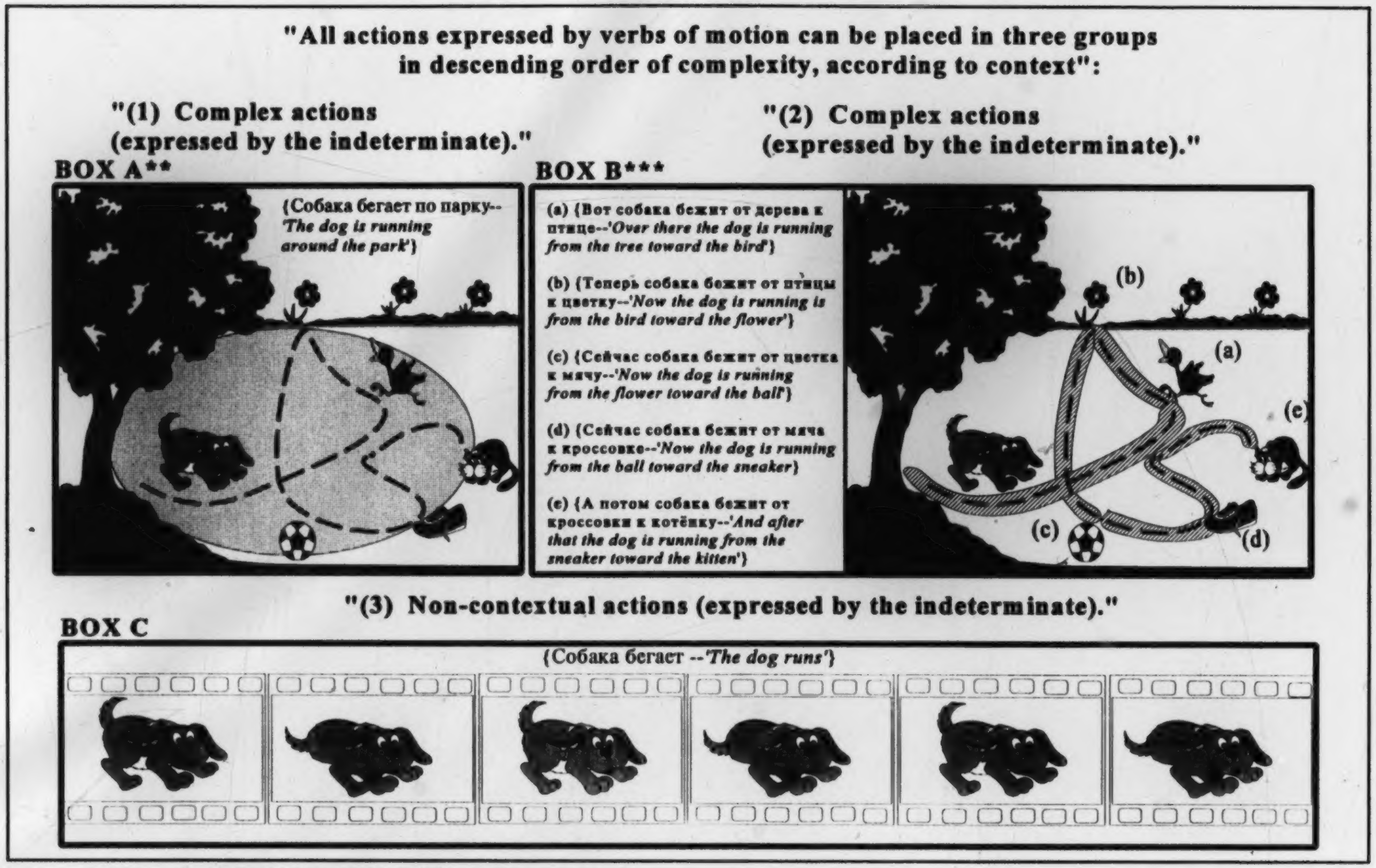


Figure 4.1: POINT OF VIEW: FROM THE "FOREST"TO "THE TREE" TO "TIMBER"*

*Graphics inspired by Foote (1967:9).



"All actions expressed by verbs of motion can be placed in three groups in descending order of complexity, according to context":

"(1) Complex actions (expressed by the indeterminate)."

BOX A**

{Собака бегает по парку--*'The dog is running around the park'*}

"(2) Complex actions (expressed by the indeterminate)."

BOX B***

(a) {Вот собака бежит от дерева к птице--*'Over there the dog is running from the tree toward the bird'*}

(b) {Теперь собака бежит от птицы к цветку--*'Now the dog is running is from the bird toward the flower'*}

(c) {Сейчас собака бежит от цветка к мячу--*'Now the dog is running from the flower toward the ball'*}

(d) {Сейчас собака бежит от мяча к кроссовке--*'Now the dog is running from the ball toward the sneaker*}

(e) {А потом собака бежит от кроссовки к котёнку--*'And after that the dog is running from the sneaker toward the kitten'*}

"(3) Non-contextual actions (expressed by the indeterminate)."

BOX C

{Собака бегает --*'The dog runs'*}

Figure 4.2: COMPLEXITY AND CONTEXT*

***Quotes from** *Foote (1967:9), which also inspired the graphics. Senteces not from Foote.*

***"*BOX A*" *magnified in* **Figure 4.3**. ***"*BOX B*" *magnified in* **Figure 4.4**.

"(1) Complex actions (expressed by the indeterminate)."

BOX A

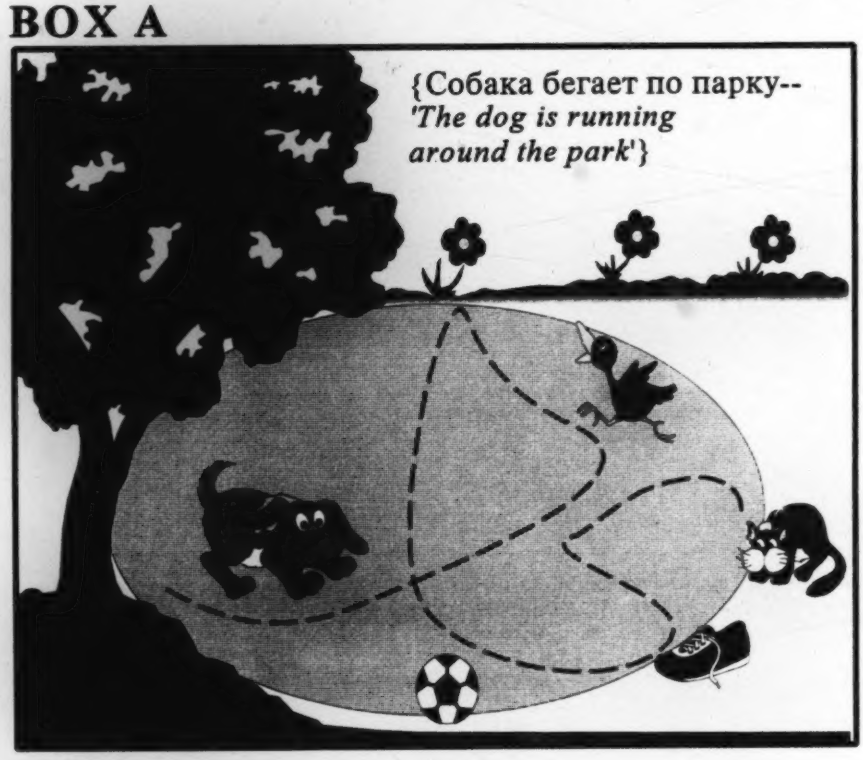

{Собака бегает по парку--
'The dog is running around the park'}

Figure 4.3: MAGNIFIED COPY OF "BOX A" FROM "Figure 4.2: COMPLEXITY AND CONTEXT"

BOX B

"(2) Complex actions (expressed by the indeterminate)."

(a) {Вот собака бежит от дерева к птице--*'Over there the dog is running from the tree toward the bird'*}

(b) {Теперь собака бежит от птицы к цветку--*'Now the dog is running is from the bird toward the flower'*}

(c) {Сейчас собака бежит от цветка к мячу--*'Now the dog is running from the flower toward the ball'*}

(d) {Сейчас собака бежит от мяча к кроссовке--*'Now the dog is running from the ball toward the sneaker'*}

(e) {А потом собака бежит от кроссовки к котёнку--*'And after that the dog is running from the sneaker toward the kitten'*}

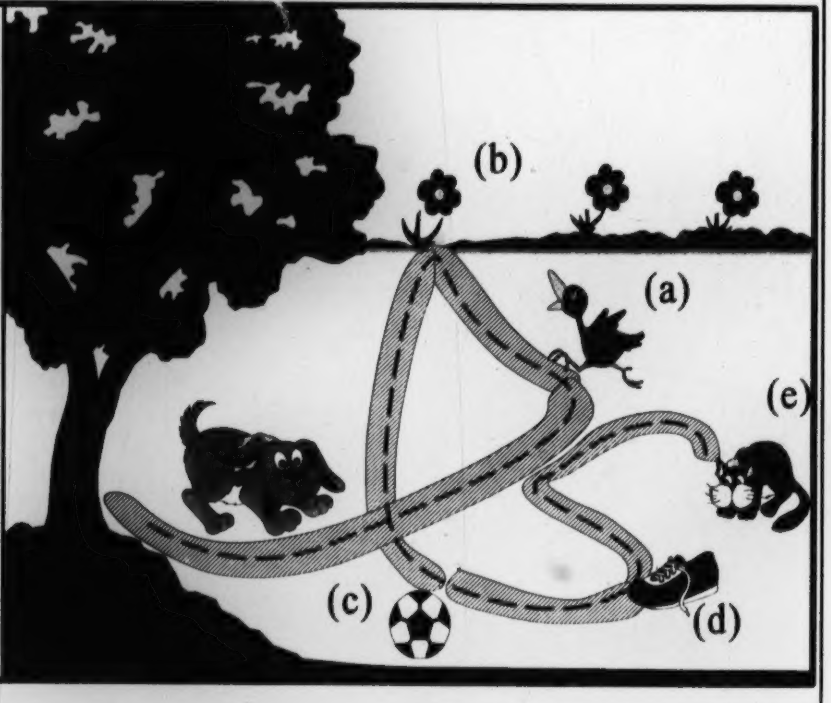
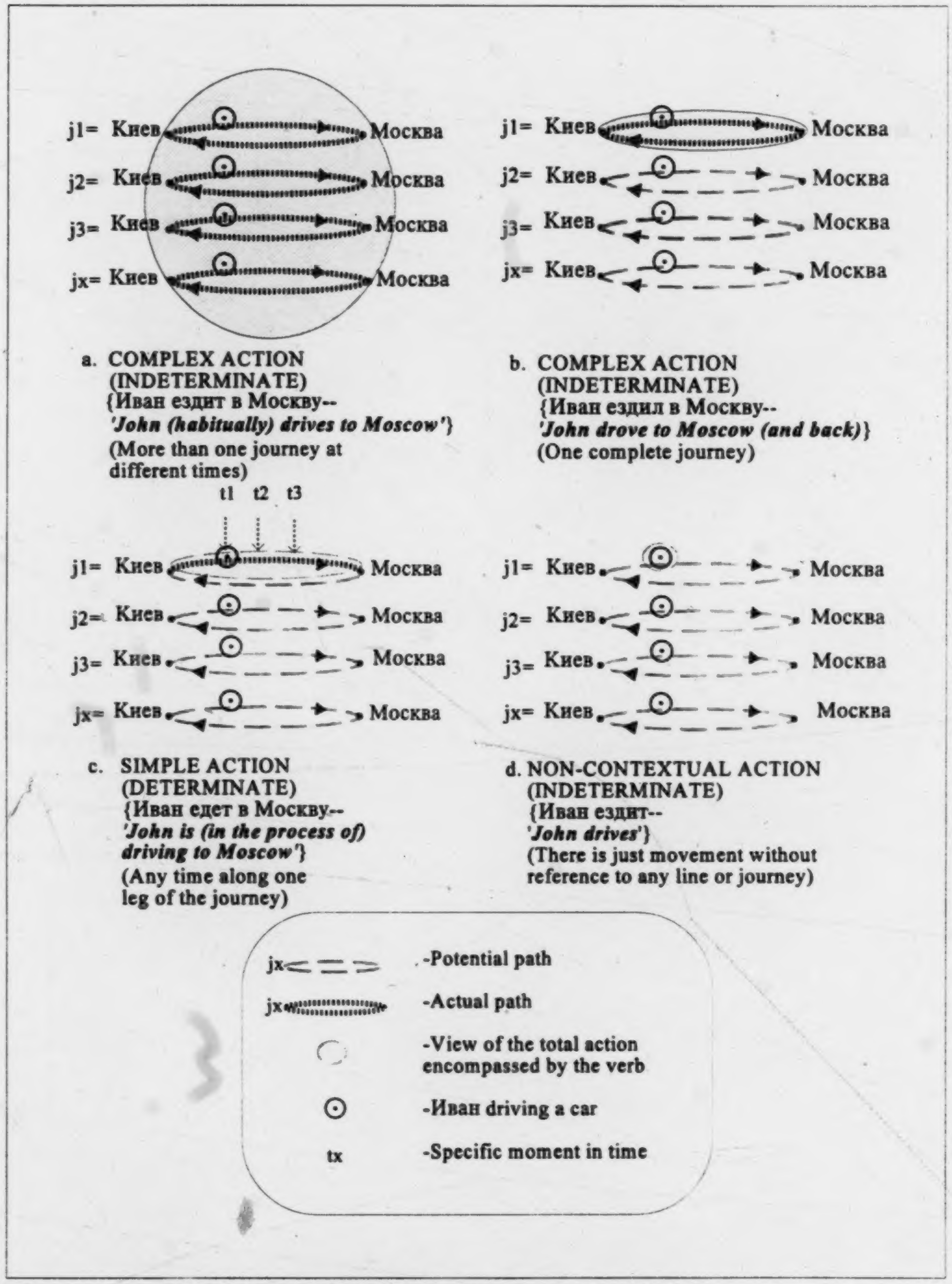


Figure 4.4: MAGNIFIED COPY OF "BOX B" FROM "Figure 4.2: COMPLEXITY AND CONTEXT"


j1= Киев Москва
j2= Киев Москва
j3= Киев Москва
jx= Киев Москва
t1 t2 t3
jx -Potential path
jx -Actual path
-View of the total action encompassed by the verb
-Иван driving a car
tx -Specific moment in time

a. COMPLEX ACTION (INDETERMINATE)
{Иван ездит в Москву--
'John (habitually) drives to Moscow'}
(More than one journey at different times)

b. COMPLEX ACTION (INDETERMINATE)
{Иван ездил в Москву--
'John drove to Moscow (and back)}
(One complete journey)

c. SIMPLE ACTION (DETERMINATE)
{Иван едет в Москву--
'John is (in the process of) driving to Moscow'}
(Any time along one leg of the journey)

d. NON-CONTEXTUAL ACTION (INDETERMINATE)
{Иван ездит--
'John drives'}
(There is just movement without reference to any line or journey)

Figure 4.5: POV: ZEROING IN ON THE ACTION*

**Based on the ideas from Foote (1967: 4-33).*

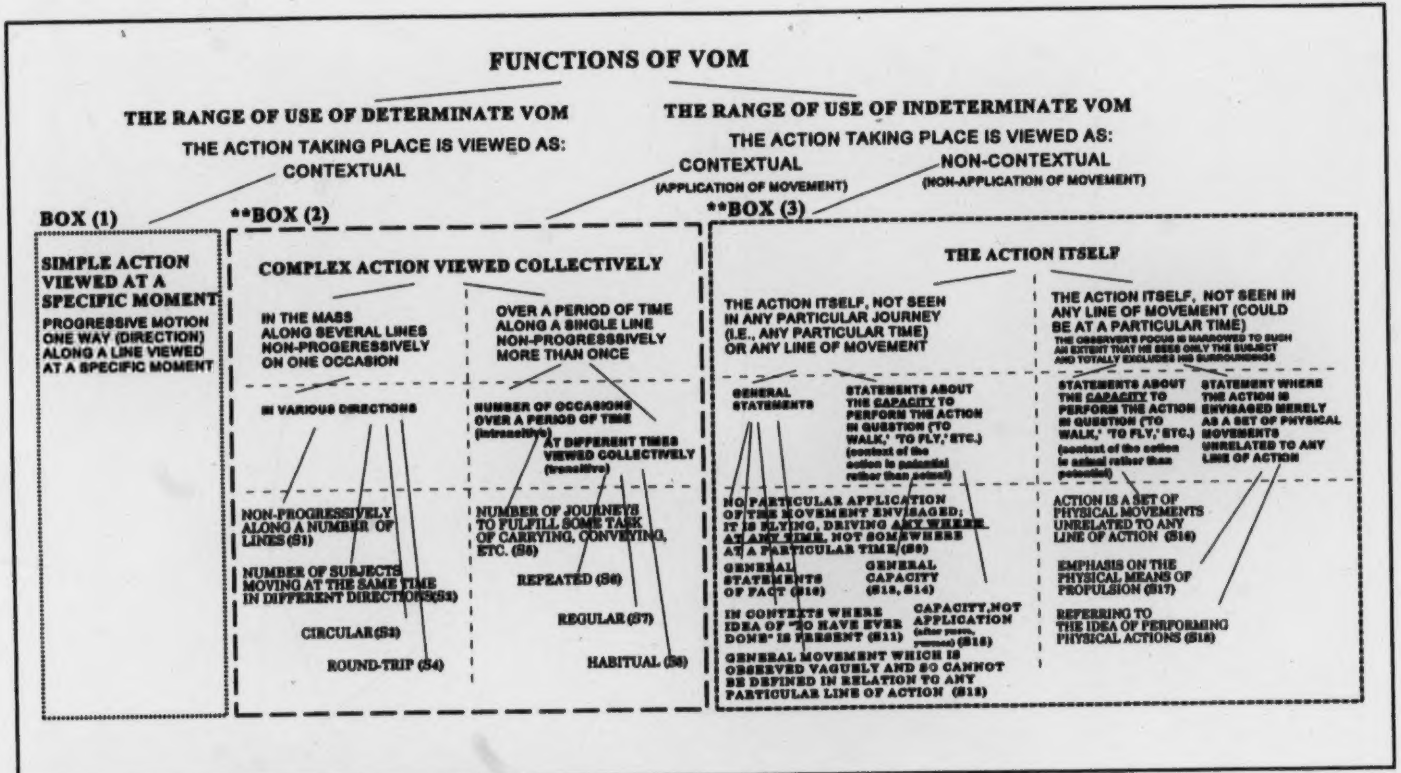

FUNCTIONS OF VOM
THE RANGE OF USE OF DETERMINATE VOM
THE ACTION TAKING PLACE IS VIEWED AS:
CONTEXTUAL
THE RANGE OF USE OF INDETERMINATE VOM
THE ACTION TAKING PLACE IS VIEWED AS:
CONTEXTUAL
(APPLICATION OF MOVEMENT)
NON-CONTEXTUAL
(NON-APPLICATION OF MOVEMENT)
BOX (1)
**BOX (2)
**BOX (3)
SIMPLE ACTION VIEWED AT A SPECIFIC MOMENT
PROGRESSIVE MOTION ONE WAY (DIRECTION) ALONG A LINE VIEWED AT A SPECIFIC MOMENT
COMPLEX ACTION VIEWED COLLECTIVELY
IN THE MASS ALONG SEVERAL LINES NON-PROGERESSIVELY ON ONE OCCASION
OVER A PERIOD OF TIME ALONG A SINGLE LINE NON-PROGRESSSIVELY MORE THAN ONCE
IN VARIOUS DIRECTIONS
NUMBER OF OCCASIONS OVER A PERIOD OF TIME (intransitive)
AT DIFFERENT TIMES VIEWED COLLECTIVELY (transitive)
NON-PROGRESSIVELY ALONG A NUMBER OF LINES (S1)
NUMBER OF SUBJECTS MOVING AT THE SAME TIME IN DIFFERENT DIRECTIONS(S2)
CIRCULAR (S3)
ROUND-TRIP (S4)
NUMBER OF JOURNEYS TO FULFILL SOME TASK OF CARRYING, CONVEYING, ETC. (S5)
REPEATED (S6)
REGULAR (S7)
HABITUAL (S8)
THE ACTION ITSELF
THE ACTION ITSELF, NOT SEEN IN ANY PARTICULAR JOURNEY (I.E., ANY PARTICULAR TIME) OR ANY LINE OF MOVEMENT
THE ACTION ITSELF, NOT SEEN IN ANY LINE OF MOVEMENT (COULD BE AT A PARTICULAR TIME)
THE OBSERVER'S FOCUS IS NARROWED TO SUCH AN EXTENT THAT HE SEES ONLY THE SUBJECT AND TOTALLY EXCLUDES HIS SURROUNDINGS
GENERAL STATEMENTS
STATEMENTS ABOUT THE CAPACITY TO PERFORM THE ACTION IN QUESTION ('TO WALK,' 'TO FLY,' ETC.) (context of the action is potential rather than actual)
STATEMENTS ABOUT THE CAPACITY TO PERFORM THE ACTION IN QUESTION ('TO WALK,' 'TO FLY,' ETC.) (context of the action is actual rather than potential)
STATEMENT WHERE THE ACTION IS ENVISAGED MERELY AS A SET OF PHYSICAL MOVEMENTS UNRELATED TO ANY LINE OF ACTION
NO PARTICULAR APPLICATION OF THE MOVEMENT ENVISAGED; IT IS FLYING, DRIVING ANY WHERE AT ANY TIME, NOT SOMEWHERE AT A PARTICULAR TIME (S9)
GENERAL STATEMENTS OF FACT (S10)
GENERAL CAPACITY (S13, S14)
IN CONTEXTS WHERE IDEA OF "TO HAVE EVER DONE" IS PRESENT (S11)
CAPACITY, NOT APPLICATION (after yuem, yuemos) (S15)
GENERAL MOVEMENT WHICH IS OBSERVED VAGUELY AND SO CANNOT BE DEFINED IN RELATION TO ANY PARTICULAR LINE OF ACTION (S12)
ACTION IS A SET OF PHYSICAL MOVEMENTS UNRELATED TO ANY LINE OF ACTION (S16)
EMPHASIS ON THE PHYSICAL MEANS OF PROPULSION (S17)
REFERRING TO THE IDEA OF PERFORMING PHYSICAL ACTIONS (S18)

Figure 4.6: FUNCTIONS OF RUSSIAN VOM AS DESCRIBED BY FOOTE*

**Source: Foote 1967: 13-31.*

***See **Figures 4.7** and **4.8** for magnified versions of **Boxes (2)** and **(3)**.*

*******Table 4.1*** *lists sentences corresponding to (S1), (S2), etc. from **Boxes (2)** and **(3)** in **Figure 4.6**, or in **Figures 4.7** and **4.8**.*

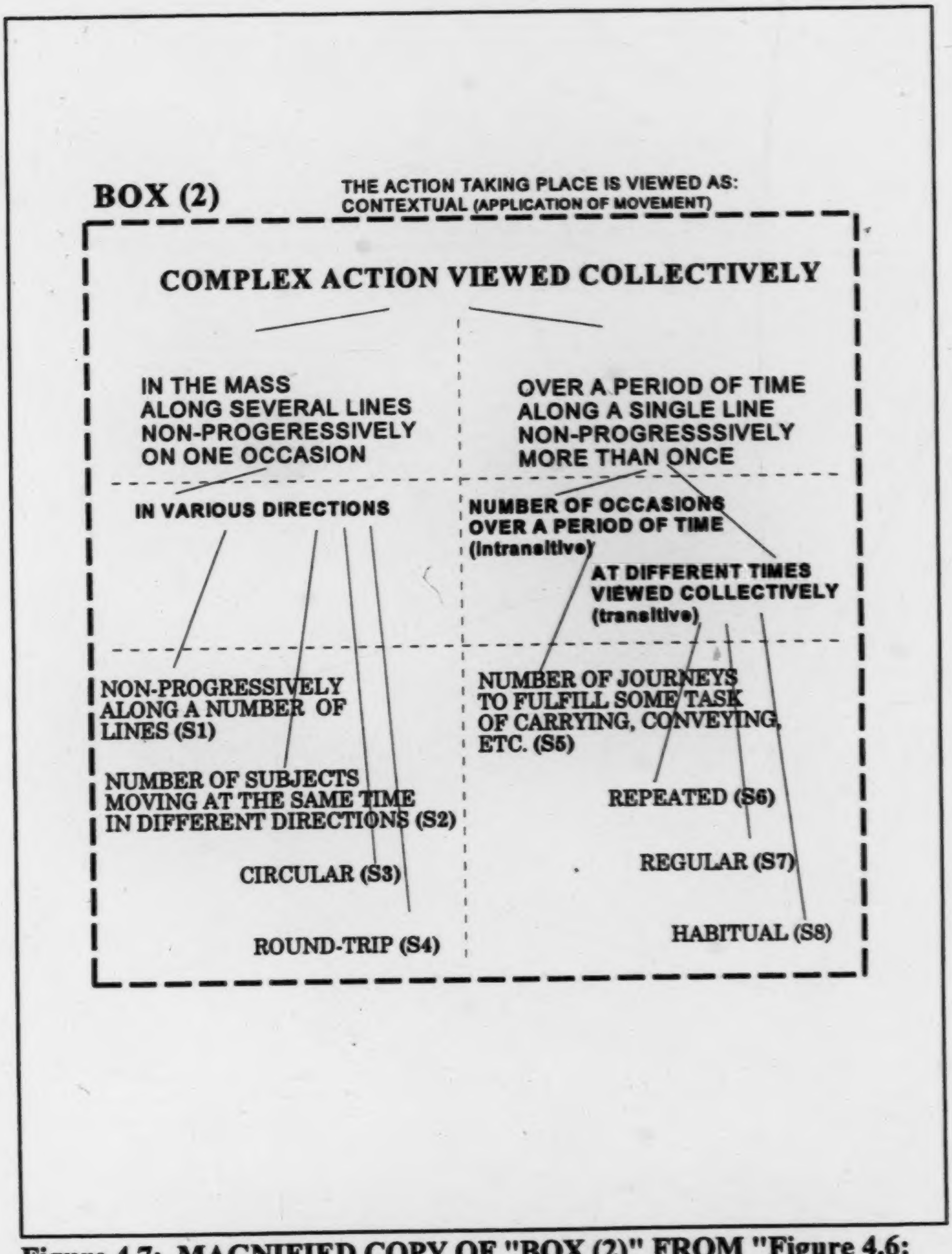

BOX (2)
THE ACTION TAKING PLACE IS VIEWED AS:
CONTEXTUAL (APPLICATION OF MOVEMENT)
COMPLEX ACTION VIEWED COLLECTIVELY
IN THE MASS
ALONG SEVERAL LINES
NON-PROGERESSIVELY
ON ONE OCCASION
OVER A PERIOD OF TIME
ALONG A SINGLE LINE
NON-PROGRESSSIVELY
MORE THAN ONCE
IN VARIOUS DIRECTIONS
NUMBER OF OCCASIONS
OVER A PERIOD OF TIME
(intransitive)
AT DIFFERENT TIMES
VIEWED COLLECTIVELY
(transitive)
NON-PROGRESSIVELY
ALONG A NUMBER OF
LINES (S1)
NUMBER OF SUBJECTS
MOVING AT THE SAME TIME
IN DIFFERENT DIRECTIONS (S2)
CIRCULAR (S3)
ROUND-TRIP (S4)
NUMBER OF JOURNEYS
TO FULFILL SOME TASK
OF CARRYING, CONVEYING,
ETC. (S5)
REPEATED (S6)
REGULAR (S7)
HABITUAL (S8)

Figure 4.7: MAGNIFIED COPY OF "BOX (2)" FROM "Figure 4.6: FUNCTIONS OF RUSSIAN VOM AS DESCRIBED BY FOOTE"

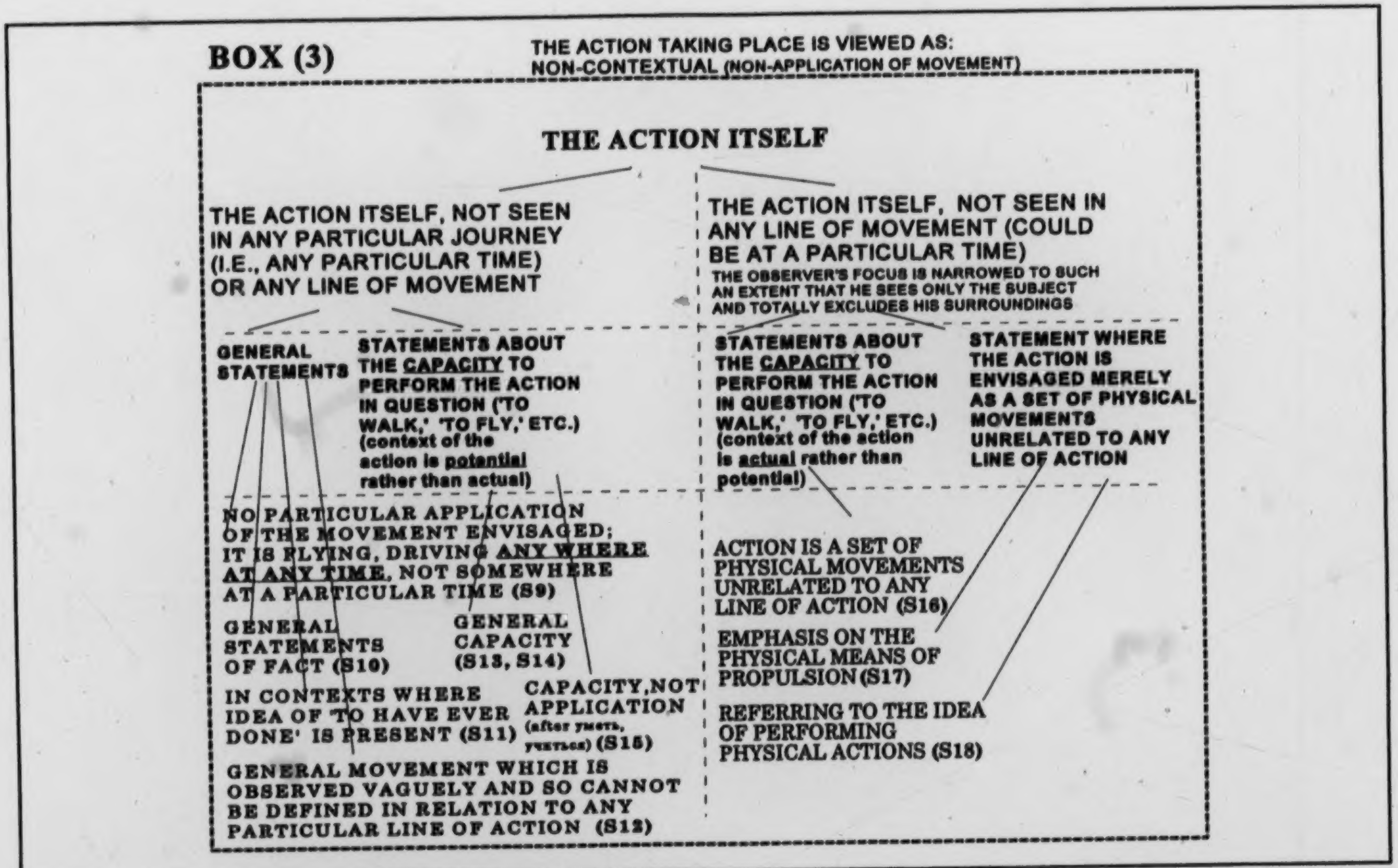

BOX (3)
THE ACTION TAKING PLACE IS VIEWED AS: NON-CONTEXTUAL (NON-APPLICATION OF MOVEMENT)
THE ACTION ITSELF
THE ACTION ITSELF, NOT SEEN IN ANY PARTICULAR JOURNEY (I.E., ANY PARTICULAR TIME) OR ANY LINE OF MOVEMENT
THE ACTION ITSELF, NOT SEEN IN ANY LINE OF MOVEMENT (COULD BE AT A PARTICULAR TIME)
THE OBSERVER'S FOCUS IS NARROWED TO SUCH AN EXTENT THAT HE SEES ONLY THE SUBJECT AND TOTALLY EXCLUDES HIS SURROUNDINGS
GENERAL STATEMENTS
STATEMENTS ABOUT THE CAPACITY TO PERFORM THE ACTION IN QUESTION ('TO WALK,' 'TO FLY,' ETC.) (context of the action is potential rather than actual)
STATEMENTS ABOUT THE CAPACITY TO PERFORM THE ACTION IN QUESTION ('TO WALK,' 'TO FLY,' ETC.) (context of the action is actual rather than potential)
STATEMENT WHERE THE ACTION IS ENVISAGED MERELY AS A SET OF PHYSICAL MOVEMENTS UNRELATED TO ANY LINE OF ACTION
NO PARTICULAR APPLICATION OF THE MOVEMENT ENVISAGED; IT IS FLYING, DRIVING ANY WHERE AT ANY TIME, NOT SOMEWHERE AT A PARTICULAR TIME (S9)
GENERAL STATEMENTS OF FACT (S10)
GENERAL CAPACITY (S13, S14)
IN CONTEXTS WHERE IDEA OF 'TO HAVE EVER DONE' IS PRESENT (S11)
CAPACITY, NOT APPLICATION (after уметь, учиться) (S15)
GENERAL MOVEMENT WHICH IS OBSERVED VAGUELY AND SO CANNOT BE DEFINED IN RELATION TO ANY PARTICULAR LINE OF ACTION (S12)
ACTION IS A SET OF PHYSICAL MOVEMENTS UNRELATED TO ANY LINE OF ACTION (S16)
EMPHASIS ON THE PHYSICAL MEANS OF PROPULSION (S17)
REFERRING TO THE IDEA OF PERFORMING PHYSICAL ACTIONS (S18)

Figure 4.8: MAGNIFIED COPY OF "BOX (3)" FROM "FIGURE 4.6: FUNCTIONS OF RUSSIAN VOM AS DESCRIBED BY FOOTE"

Table 4.1: LIST OF EXAMPLES SHOWING THE RANGE OF USE OF INDETERMINATE VOM*

**Examples are from Foote (1967:23-31).*

**Usages (S1-S18) correspond to example numbers in FIGURES 4.7 and 4.8. These figures are magnified copies of Boxes (2) and (3) in "Figure 4.6: FUNCTIONS OF RUSSIAN VOM AS DESCRIBED BY FOOTE."*

**Usages (S1-S5) also correspond to example numbers in "Figure 3.2: GRAPHIC ILLUSTRATION SHOWING THE RANGE OF USE OF INDETERMINATIVE VERBS."*

S1. {**Теперь они вместе собирают грибы, ползают по траве . . .** (Aksyonov, **Пора, мой друг, пора**)--'*Now they gather mushrooms together, crawling about in the grass*' (Foote 1967:23)}. See Figure 3.2(a).

S2. {**Внизу люди бегают, как муравьи** (Nekrasov, **В родном городе**)--'*Down below people were running about like ants*' (Foote 1967:23)}. See Figure 3.2(b).

S3. {**Он вприсядку ходил вокруг Сони** (Chukovsky, **Балтийское небо**)--'*He danced (went) around Sonya on his haunches*' (Foote 1967:24)}. See Figure 3.2(c).

S4. {**Вчера мы ходили в кино**--'*We went to the cinema yesterday*' (Foote 1967:24)}. See Figure 3.2(d).

S5. {**Тётя Паша и шофёр стали носить всё это в дом** (Panova, **Серёжа**)--'*Auntie Pasha and the driver set out to carry all this into the house*' (Foote 1967:26)}. See Figure 3.2(e).

S6. {**Лунин много раз летал над Кронштадтом** [*repeated*] (Chukovsky, **Балтийское небо**)--'*Lunin had flown over Kronstadt many times*' (Foote 1967:27)}.

S7. {**Он ходил к ней раз в неделю** [*regular*]--'*He went to (see) her once a week*' (Foote 1967:27)}.

Table 4.1--*Continued.*

Table 4.1--*Continued.*

S8. {**Ходил он не скоро, но большими шагами** [*habitual*] (Turgenev, **Записки охотника**)--'*He did not walk quickly, but took big strides*' (This occurs in a character sketch.) (Foote 1967:27)}.

S9. {**Я люблю самолёты . . . Я хочу летать** (Chukovsky, **Балтийское небо**)--'*I love aeroplanes. I want to fly*' (Foote 1967:28)}.

S10. {**Только сумчатые животные носят детёнышей в сумке на животе** (Slevich, **Через два океана**)--'*Only marsupials carry their young in a pouch on their stomachs*' (Foote 1967:28)}.

S11. {[**Вы плавали**] **по Азовскому морю?** (Chukovsky, **Балтийское небо**)--'*Have you ever sailed on the Sea of Azov?*' (Foote 1967:28)}.

S12. {**Где-то ходят** (Andreyev, **Рассказ о семя повешенных**)--'*There are people walking (about) somewhere*' (Foote 1967:28)}.

S13. {**Ребёнок уже ползает**--'*The child is already crawling, i.e., has already acquired the capacity to crawl*' (Foote 1967:29)}.

S14. {**Летающая тарелка**--'*flying saucer*' (Foote 1967:29)}.

S15. {**Учиться ездить верхом**--'*to learn to ride horseback*' (Foote 1967:30)}.

S16. {**Врачи велят побольше ходить. Вот и хожу**--'*The doctors say [recommend] I must walk more, so here I am walking*' (Foote 1967:31)}.

S17. {**Всё в порядке,--сказал Сабуров,--за исключением того, что от генерала Проценко до полковника Ремизова приходится ползать, на животе** (Simonov, **Дни и ночи**)--'*"Everything's fine," said Saburov, "except for the fact that to get from General Protsenko to Colonel Remizov you have to crawl on your stomach"*' (Foote 1967:31)}.

S18. {**Когда, воображая, что я иду на охоту, . . . я отправился в лес, Володя лёг на спину . . . и сказал мне, что будто бы и он ходил** (Tolstoy, **Детство**)--'*When I went off into the wood making believe that I was going hunting, Volodya lay on his back and had me believe that he was coming too*' (Foote 1967:31)}.

SUMMARY AND CONCLUSION

5.1.0 Summary

Chapter I introduced terms and notions that would be applicable to the discussion in the following chapters.

In Chapter II, it was pointed out that the description of determinate motion as **unidirectional** means that at any given instant in time an object in motion is moving in only one direction. Furthermore, determinate motion involves **displacement**. The indeterminate does not express necessarily express these two notions.

Chapter III has pointed out that **direction** (as *motion along a line*) implied by the determinate verb can be represented by the notion of **trajectory**. An **orbit,** in contrast to **trajectory**, can represent the indeterminate verb. The comparison **orbit/ trajectory** particularly underlines the timelessness (time independence) of indeterminate motion and the time-dependency of determinate motion. The juxtaposition of **distance/ displacement** has emphasized the **direction**lessness of indeterminate motion and the **directionality** of determinate motion. **Trajectory** incorporates the dimensions of direction, location, and an interval of time than can be an instant; **orbit** does not. The analogy of **trajectory** to the determinate verb means it can be expressed in terms of **average** and **instantaneous velocity,** while the analogy of **orbit** to the indeterminate verb means that it expresses **zero velocity**.

In Chapter IV, the idea of "motion along a line" was developed in terms of "context" and "complexity."

Visual representations of the notions are included in the chapters.

5.1.1 Summary Outline

The following is a summary outline of the evolution of the thought process leading to the distinction between determinate and indeterminate VOM:

(1) Most verbs in Russian are classified as belonging to either the **perfective** or the **imperfective** aspect.

(2) In the imperfective aspect there is a subset of fourteen pairs of Russian verbs denoting motion called VOM.

(3) There are two types of VOM, which are usually designated **determinate** and **indeterminate** or **идти-type** and **ходить-type.**

(4) All the verbs making up the set of VOM belong to the imperfective aspect and have the same **underlying-lexical** meaning, "*to go.*"

(5) The members of each VOM couple have the same **literal-lexical** (or *lexical*) meaning but their **grammatical-lexical** (or *grammatical*) meaning is different.

(6) The function of "naming" is common to both the determinate and indeterminate sub-aspect.

(7) The expression of "action in the future" is exclusive to the determinate verb and is not a function of the indeterminate.

(8) The expression of "two-way action" in the past is exclusive to the indeterminate verb and is not a function of the determinate.

(9) The concepts of **time** and **direction** are relevant to the definitions of determinate and indeterminate VOM.

(10) The determinate verb of motion is generally understood to describe "**continuous process**" (which includes the temporal nuances found in the notions of "**progressivity**," "**actuality**," "**durativity**," etc.); and the indeterminate to describe "**iterativity**" (also referred to as "**habituality**"). However, examples of each are found in the other category, because of the common imperfective nature of each member of a VOM pair.

(11) The one constant meaning of идти-type verbs is **unidirectionality** (Isačenko).

(12) **Unidirectionality** means "*movement in one direction*" (Foote).

(13) "*Movement in one direction*" is "*movement along a* **line** (*линейное движение*)" (Foote 1967:7).

(14) A **line** is "*the path followed by an object in motion*" (Webster's Dictionary).

(15) "Direction" is "*the line along which an object in motion moves*" (Webster's Dictionary).

(16) "*Movement along a line*" involves "**progressive motion**" (Foote).

(17) "**Progressive motion**" means the "*change of location*" of an object in motion (Foote 1967:7).

(18) "**Progressive motion**" is an essential feature of the determinate verb--not necessarily of the indeterminate.

(19) "**Progressive motion,**" dominated by a spatial nuance, is distinct from what is called "**progressivity,**" a notion related to "**continuous process**," dominated by a temporal nuance.

(20) The "*effective change of **location***" that an object has moved is referred to as "**displacement**," which differs from the "**distance**" it has moved. The former involves direction.

(21) **Speed** is the **distance** of an object travelled over time. **Velocity** is the **displacement** of an object over time.

(22) **Displacement** and **velocity** give **direction.**

(23) An object involved in "*progressive motion along a line*" can be considered to follow a **trajectory**. An **orbit**, as an overall entity, is not involved in "*progressive motion along a line*."

(24) The mathematical correlates to **orbit** and **trajectory** are **circle** and **tangent,** respectively.

(25) *Over an interval of time* the direction of a moving object can be discerned (given by **average velocity**).

(26) *At a specific moment in time* the DIRECTION of a moving object can be discerned (given by **instantaneous** velocity).

(27) In **trajectory**, **average velocity**, and thus **displacement**, is greater than zero. It follows that **average direction** of an object along a **trajectory** can be identified. In **orbit**, **average velocity**, and thus **displacement**, is zero. It follows that the **average direction** of an object along an **orbit** cannot be identified.

(28) **Trajectory**, a time dependent description of motion, is defined by three features: a specific moment of time, direction, and location (Pahomov). **Instantaneous velocity** takes into account these three dimensions. Unlike **trajectory**, **orbit** is a time-independent description of motion (Pahomov).

(29) The term "**trajectory**" can be applied to symbolize the motion described by a determinate verb, while "**orbit**" can be applied to symbolize the motion described by an indeterminate verb.

(30) The following definition contains virtually all the essential elements to describe идти-type motion. The determinate verb expresses *the speaker's observation at a given instant of time, the position (direction) of an object during one "go" of its progressive motion along a single line.*

(31) The indeterminate verb ***does not*** express *the speaker's observation at a given instant of time, the position (direction) of an object during one "go" of its progressive motion along a single line.*

5.2.0 Conclusion

To understand the difference in the meaning between the determinate and indeterminate VOM I have looked into what other authors have presented. They have used terms that have not necessarily been defined very clearly. I have attempted to dissect definitions describing the features of determinate and indeterminate verbs and tried to provide more precise delineations of the distinctive features of the sub-aspects. By resorting to such scientific analogies I think a clearer understanding of the distinction between these verbs can be achieved. This in turn has allowed me to translate the scientific notions into visual presentations more easily. I believe that these illustrations are of pedagogical use for foreign students of the Slavic languages.

At the same time, one has to admit, as in all languages, purely logical mathematical analysis of events is not realistic. In general, there is a degree of subjectivity in language in the use of every form, be it POV of the action or metaphorical. This can be incorporated into our understanding of the sub-aspects by saying it is the speaker who ultimately decides what the interval of time described is going to be--whether it is an instant or longer. This too has to be considered in the definitions of these forms.

5.2.1 Future research directions

These visual presentations can become even more vivid through the use of computer animation. It is something I certainly am considering.

Do all "metaphoric" uses of VOM fit the framework of being typical representations of one or the other sub-aspect?

How do **брести/ бродить**, '*to wander*,' typify the distinctive characteristics of determinate/ indeterminate verbs?

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